Desde la Obesidad a la Diabetes: Enfoque Actualizado del Continuo Metabólico en Diagnóstico y Manejo

Dr. Gonzalo Galván Escobar

En Chile **8 de cada 10 personas tiene exceso de peso**

Cada vez más frecuentemente nos tocara atender a pacientes con **exceso de peso y sus complicaciones**

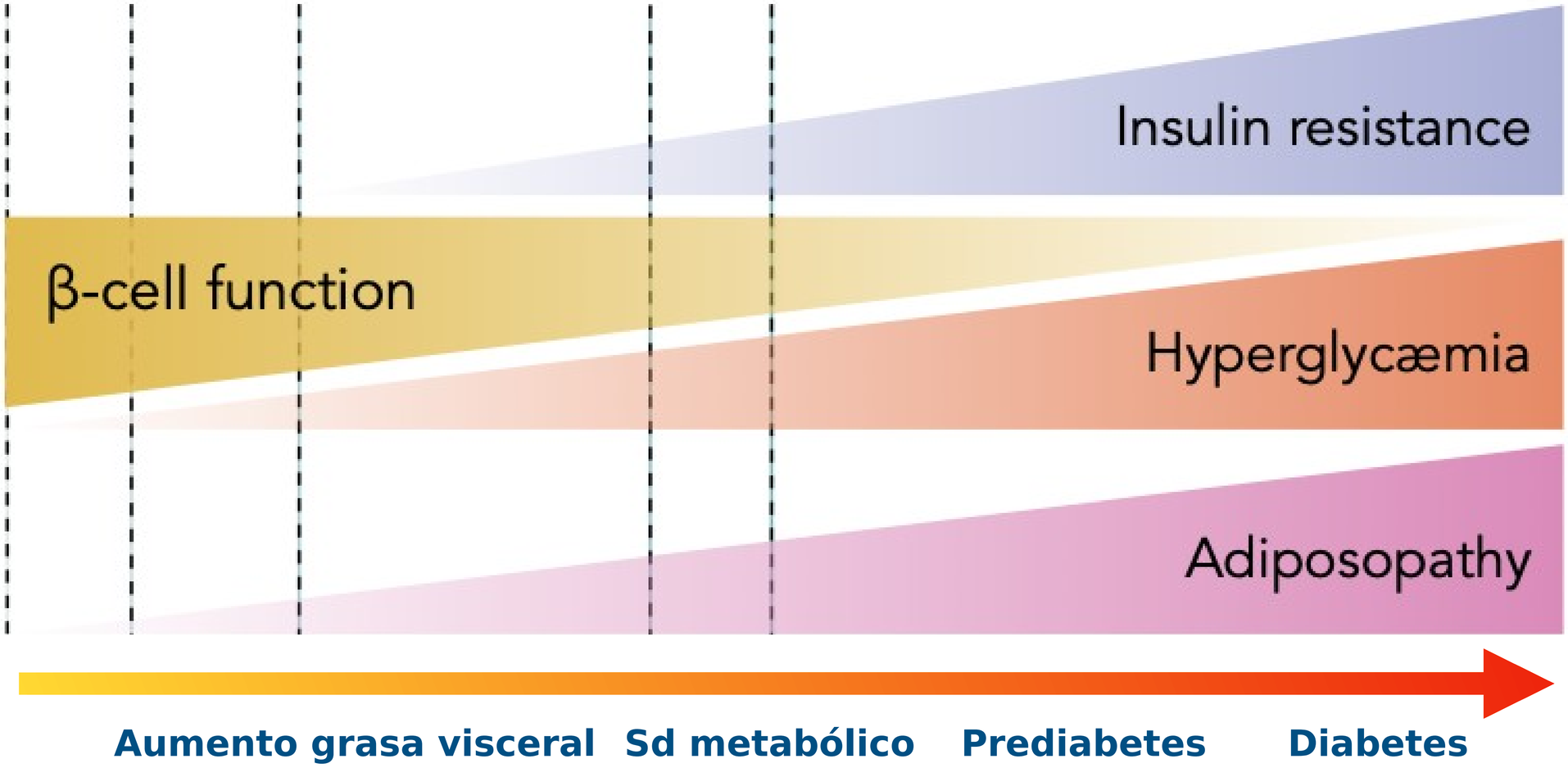
Importancia de reconocer a estos pacientes de manera precoz para poder **intervenir de manera oportuna** y ofrecer las **mejores alternativas terapéuticas**.

Temas a tratar

- Continuo Metabólico
  - Concepto
  - De la Obesidad a la Diabetes
- Tratamiento DM2
  - Dieta Mediterranea y Ejercicio
  - Farmacológico:
    - iSGLT2
    - GLP-1
    - Enfoque Obesidad
- Guias ADA

El Continuo Metabólico

El Continuo Metábolico

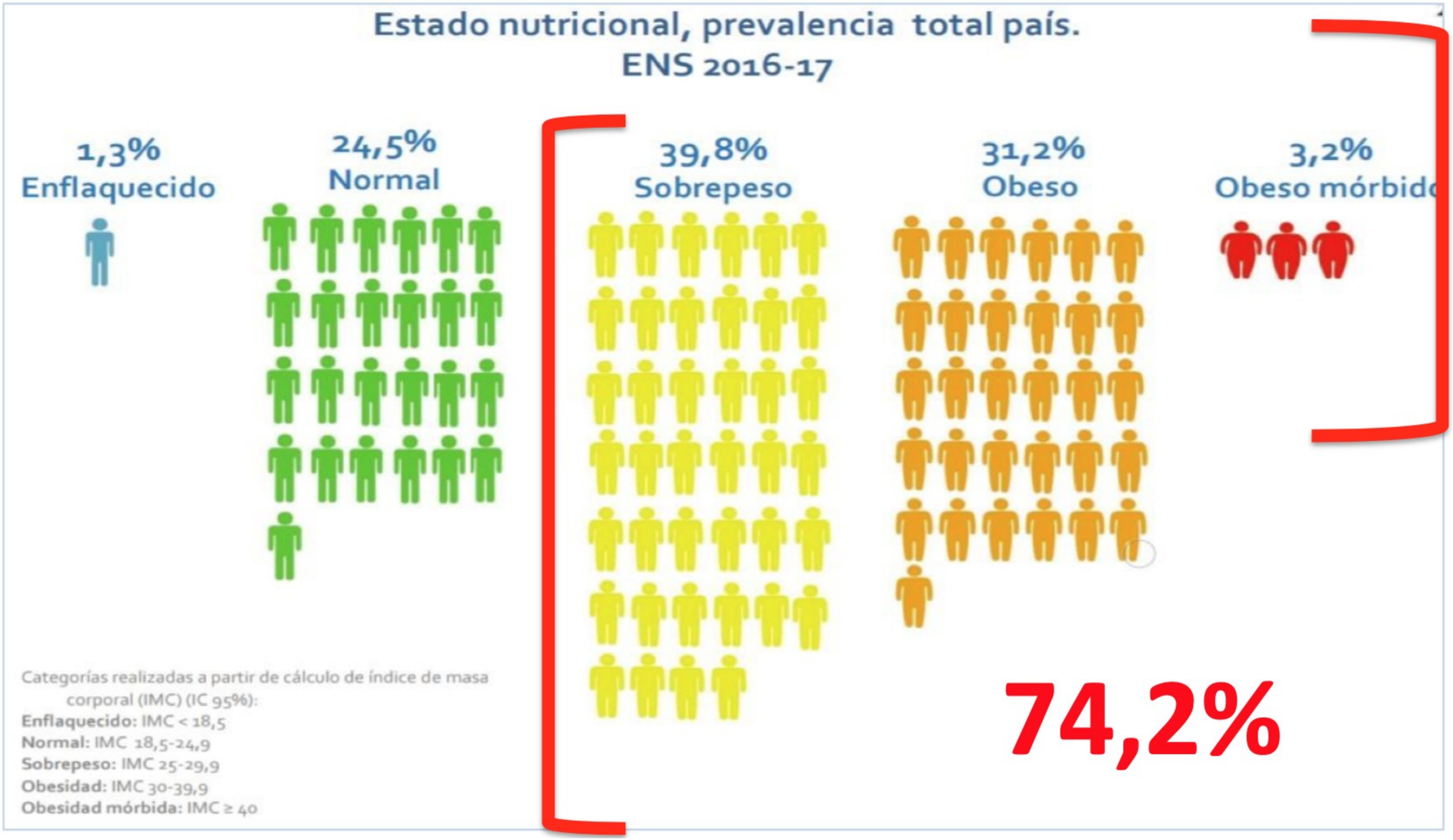


REVERSIBLE

Pedersen, Sue, Canadian Diabetes & Endocrinology Today , Vol. 1, March 2023

Obesidad

Encuesta Nacional de Salud 2016-2017



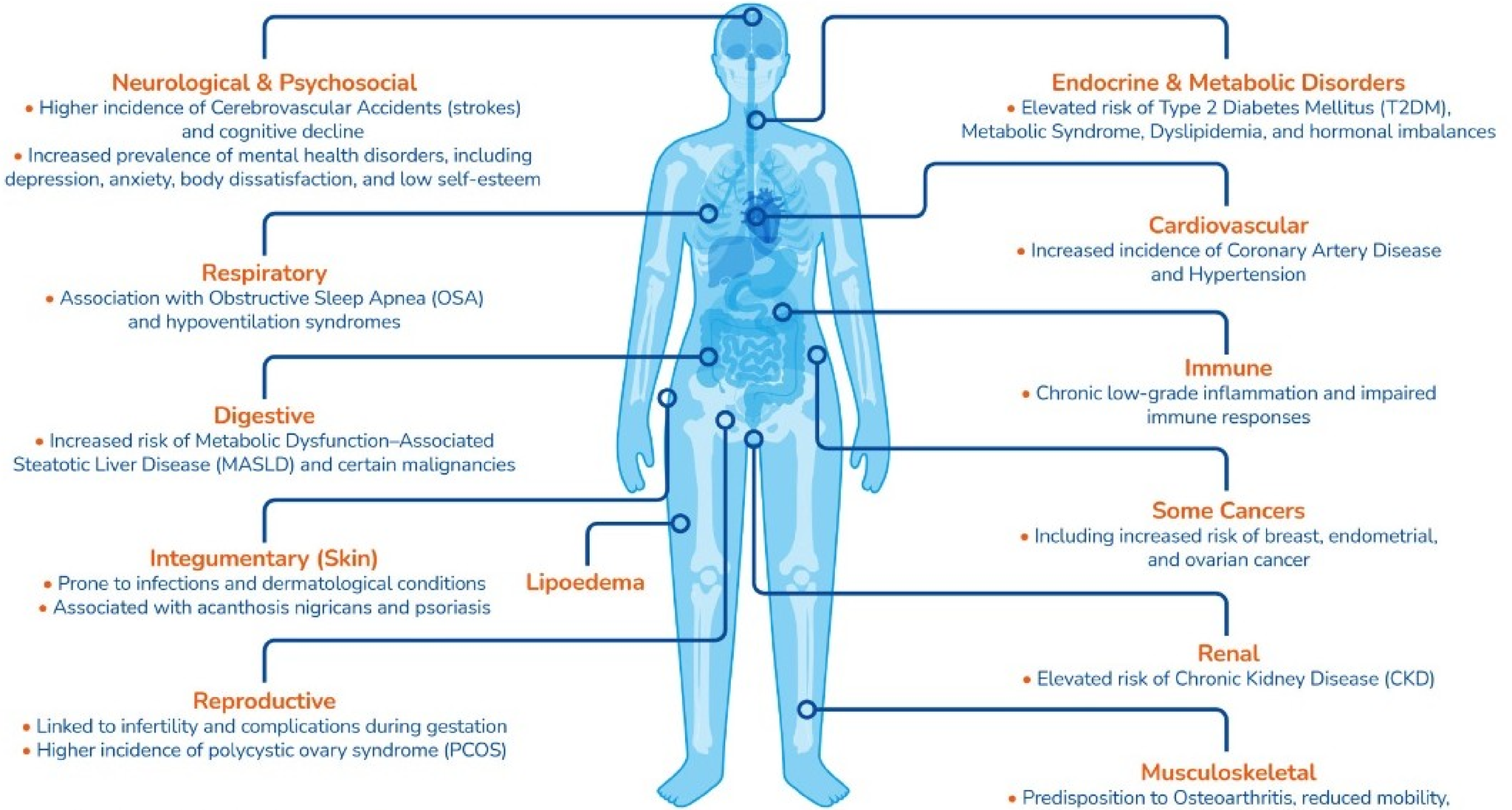
WORLD OBESITY | Global Obesity Observatory

Chile 2025

CON EXCESO DE PESO

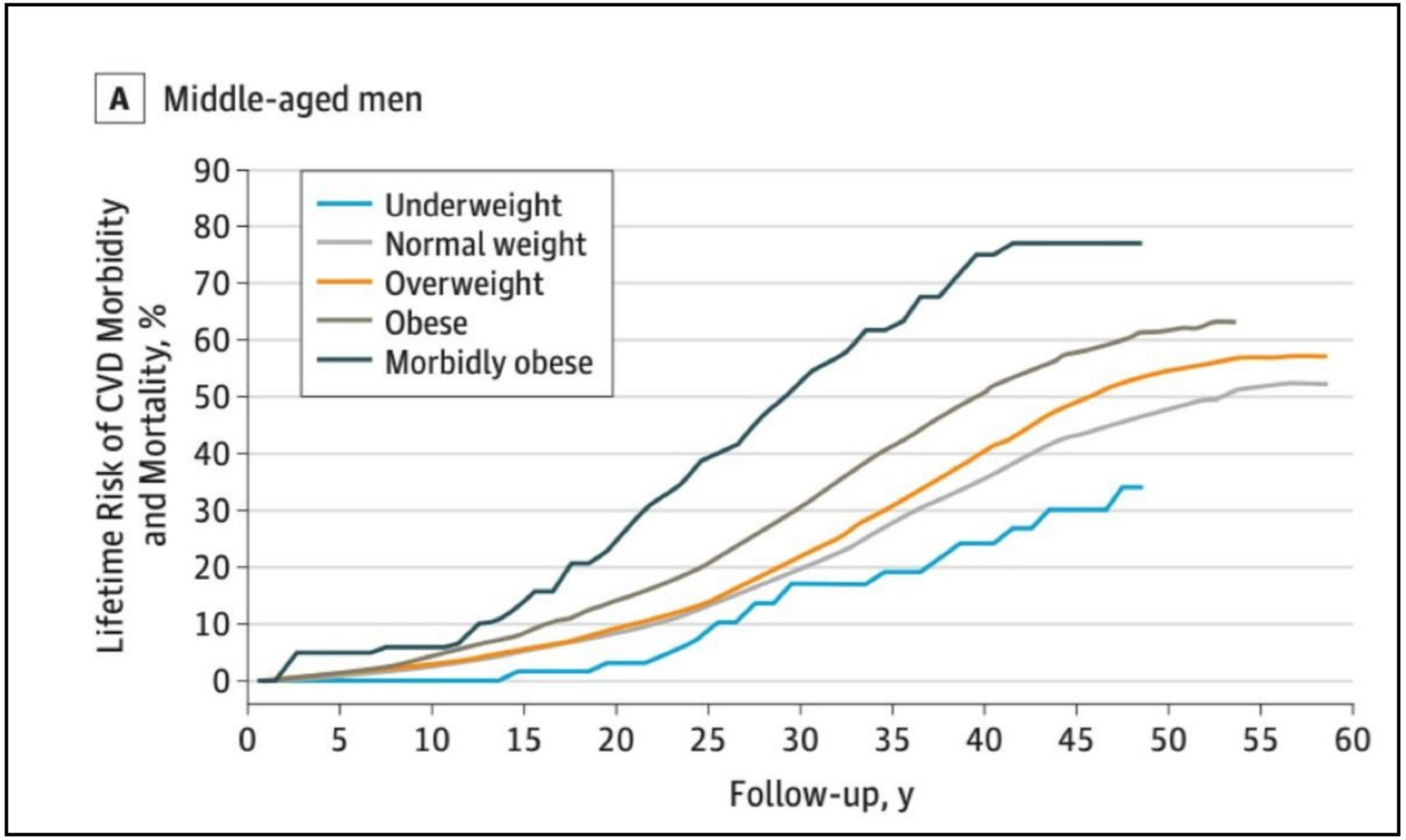
CON OBESIDAD (IMC > 30)

Comorbilidades asociadas a la Obesidad



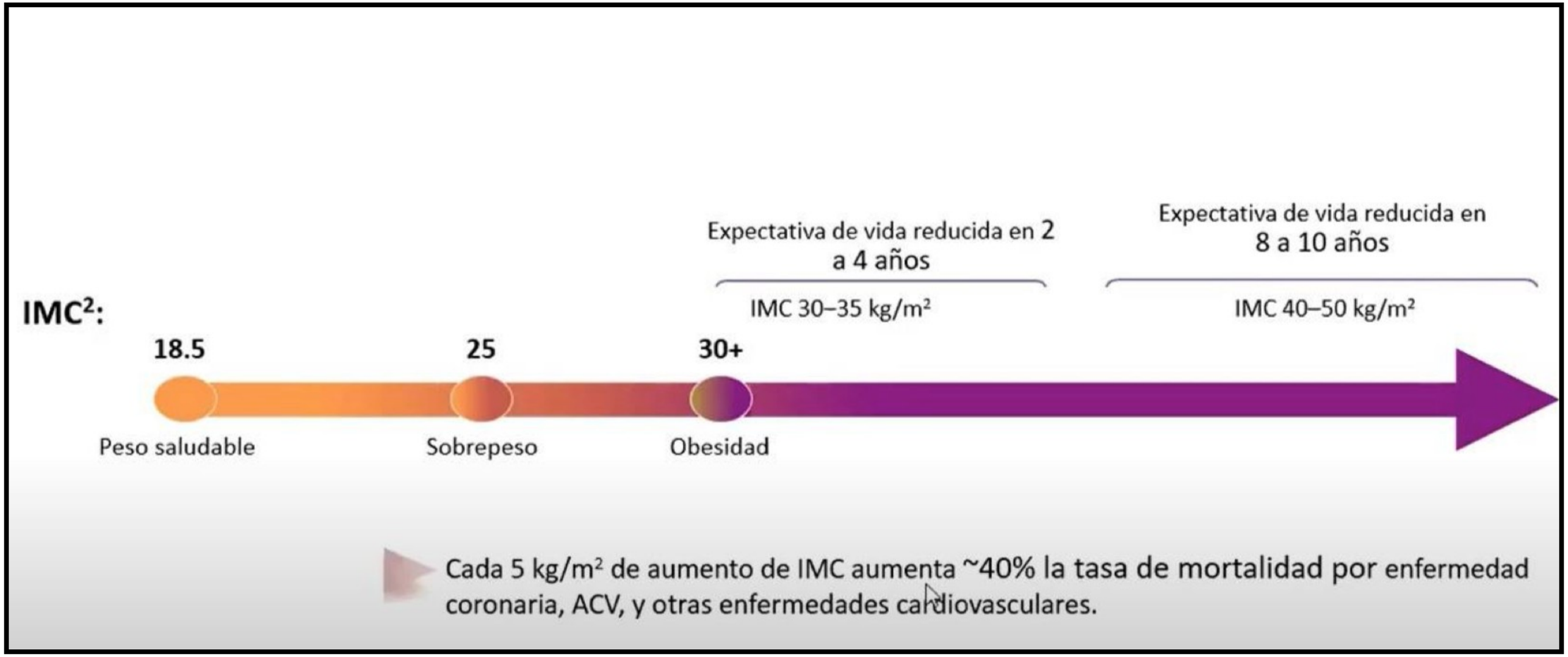
Developed by the European Association for the Study of Obesity **enquiries@easo.org** | **www.easo.org**
Read the full publication in *Nature Medicine*: **https://doi.org/10.1038/s41591-024-03095-3**

Obesidad y Mortalidad Cardiovascular



JAMA Cardiol. 2018;3(4):280-287

Obesidad y expectativa de vida



Lancet. 2009 Mar 28; 373(9669): 1083–1096

Nueva Clasificación 2025

Preclinical obesity

A condition of excess body fat associated with variable level of health risk, but no ongoing illness

People living with preclinical obesity:

- Have no evidence of reduced organ or tissue function due to obesity
- Can complete day-to-day activities unhindered
- Are generally at a higher risk of developing diseases, such as:
  - Clinical obesity
  - Cardiovascular disease
  - Some cancers
  - Type 2 diabetes

Clinical obesity

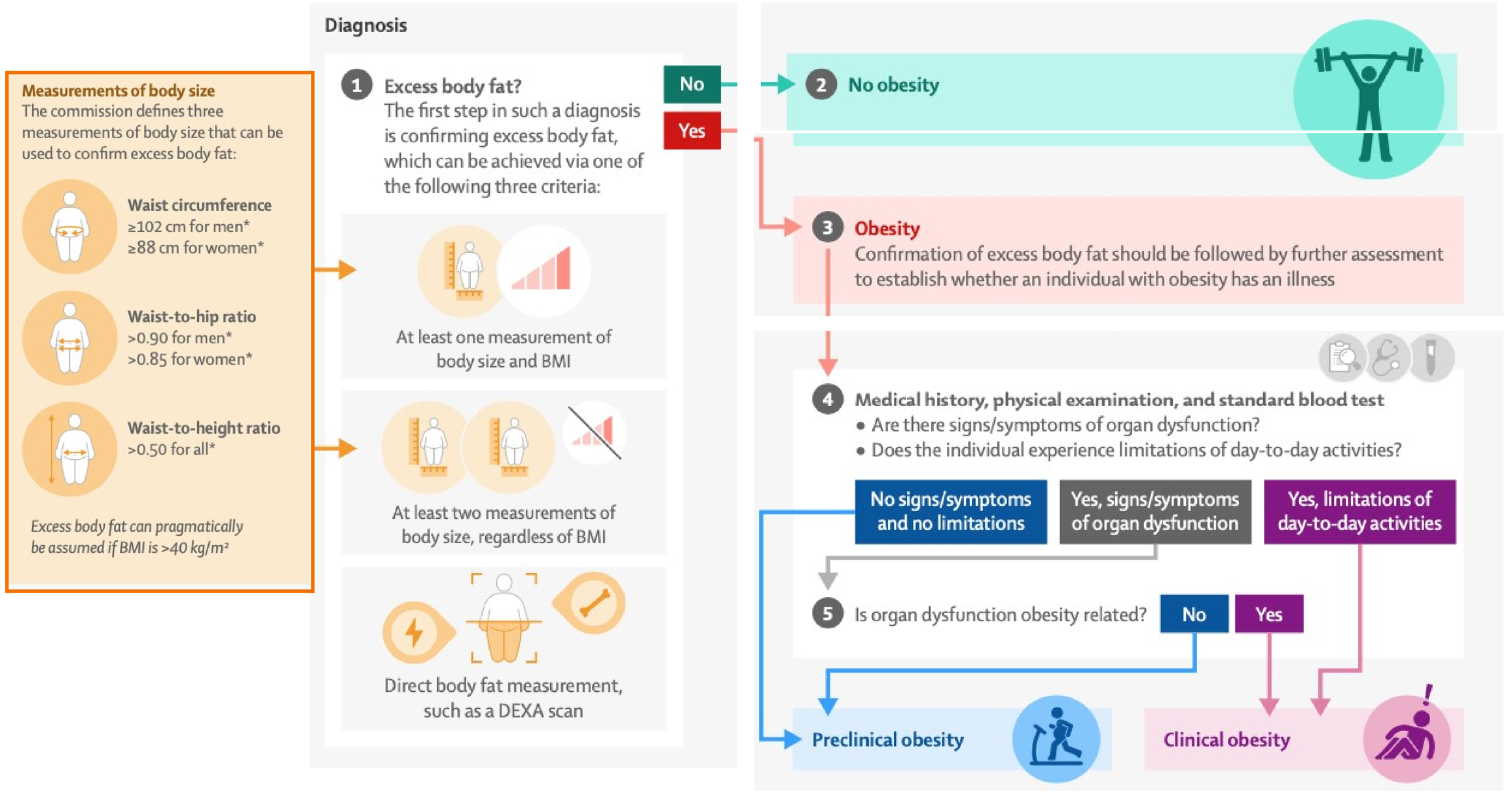
A chronic disease due to obesity alone, and characterised by signs and symptoms of ongoing organ dysfunction and/or reduced ability to conduct daily activities

People living with clinical obesity have reduced tissue or organ function due to obesity, such as:

- Breathlessness caused by effects of obesity on the heart or lungs
- Knee or hip pain with joint stifness and reduced range of motion
- A cluster of metabolic abnormalities
- Dysfunction of other organs including kidneys, upper airways, nervous, urinary, and reproductive systems.

THE LANCET Diabetes & Endocrinology

Algoritmo Nueva Clasificación



Análisis Composición Corporal

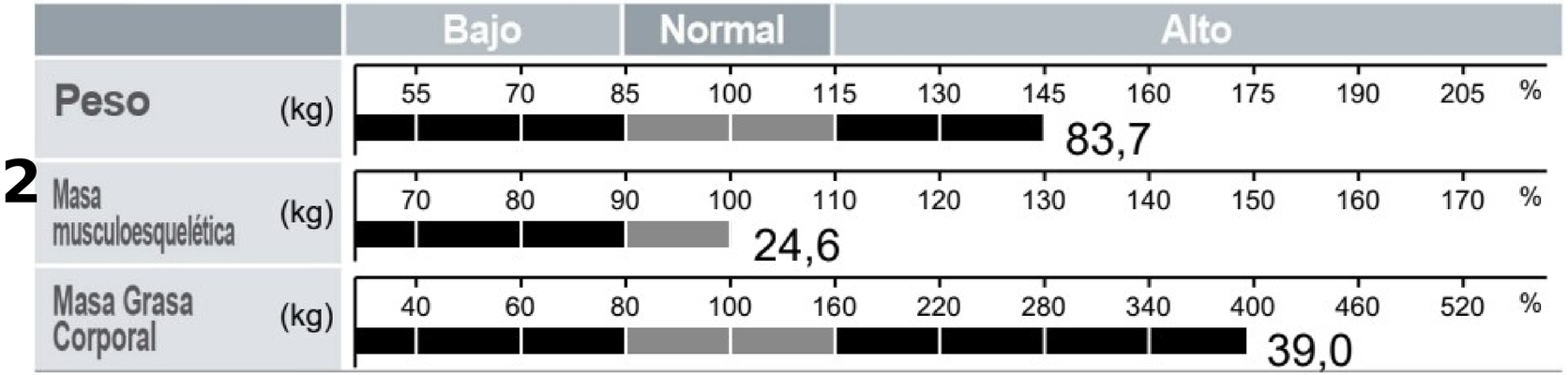
INBODY

PACIENTE 1
IMC 30

Análisis de Músculo-Grasa

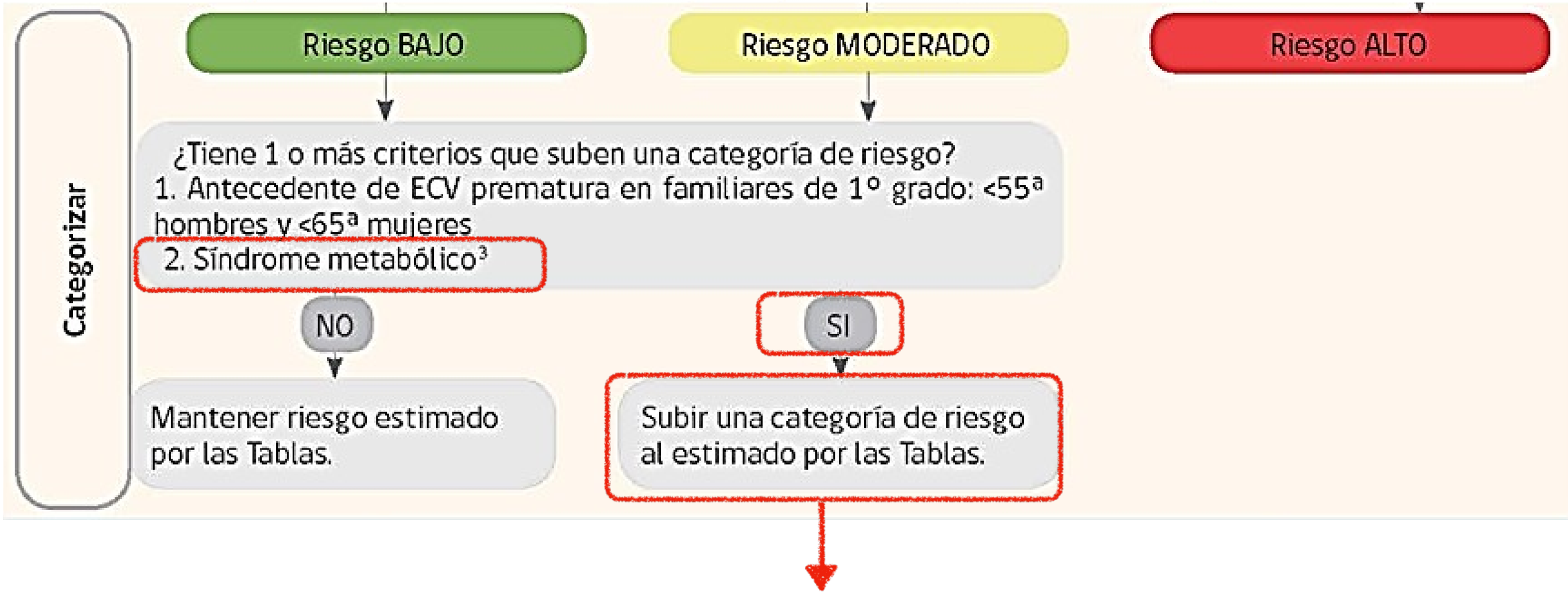
PACIENTE 2
IMC 30

Análisis Músculo-Grasa



Sindrome Metabólico

Importancia de Identificar el Sd Metabólico



RIESGO CARDIOVASCULAR AL MENOS MODERADO : OBJETIVO LDL < 100 mg/d

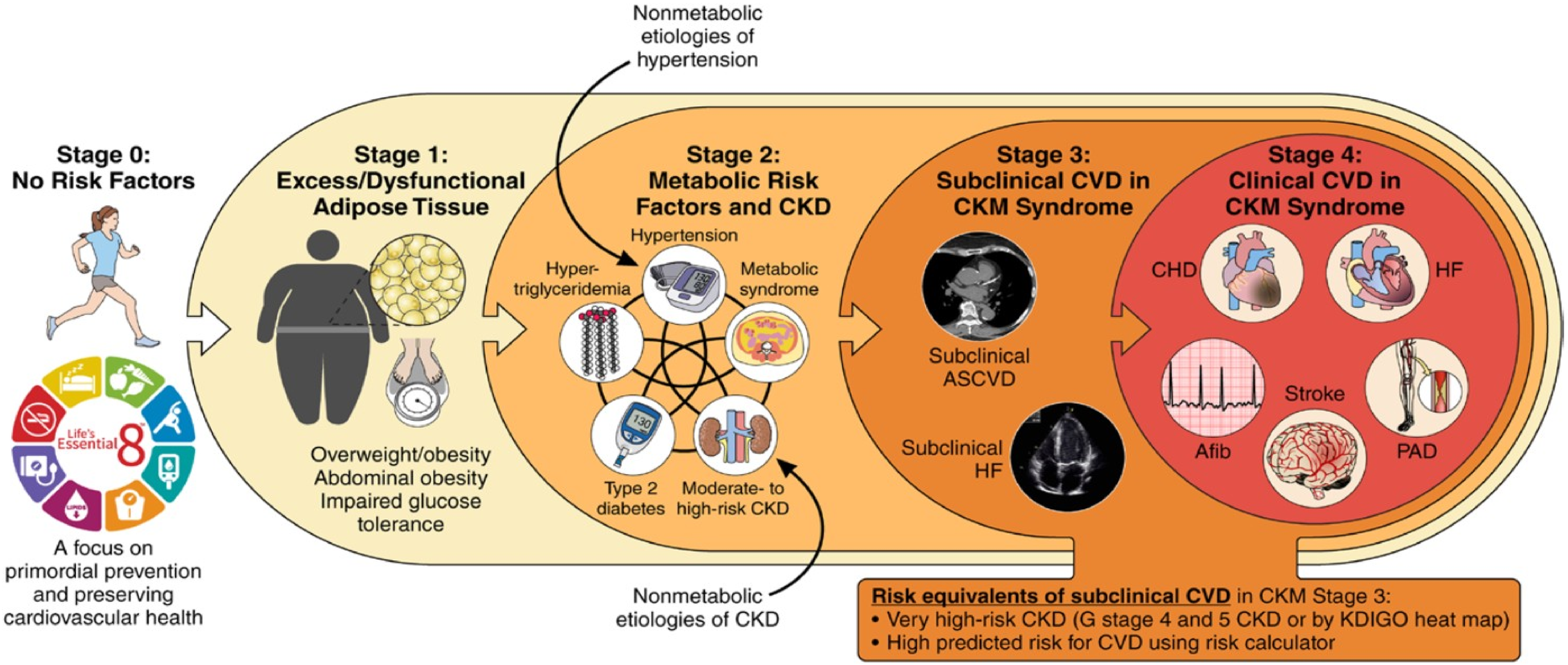
Orientaciones Técnicas Minsal 2018

Criterios Sindrome Metabólico (3/5)

Criterios diagnóstico	NCEP ATPIII actualizado (2005)	IDF
Requisito	3 de los 5 factores de riesgo siguientes	Presencia de obesidad central dada por CC según pertenencia étnica más 2 de los 4 factores de riesgo restantes
Circunferencia de cintura (cm)	CC: Hombres: > 102 Mujeres: > 88	CC (población específica): Personas de origen centro o sur americano: Hombres: ≥ 90 Mujeres: ≥ 80
Triglicéridos (mg/dl)	TG ≥ 150 o en tratamiento farmacológico para HTG	
Colesterol HDL (mg/dl)	cHDL: Hombres: < 40 Mujeres: < 50 o en tratamiento farmacológico para cHDL bajo	
Presión arterial (mmHg)	≥ 130 /o ≥ 85 o tratamiento farmacológico para hipertensión	
Glicemia (g/dl)	≥ 100 (incluidos sujetos con DM2) o tratamiento farmacológico para glicemia elevada	

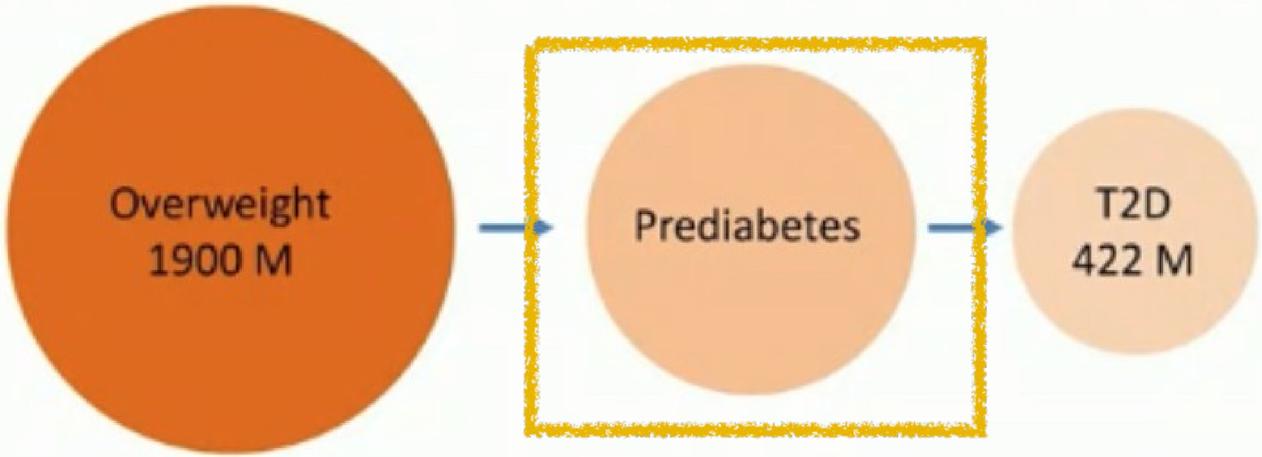
Rev Med Chile 2010; 138: 707-714

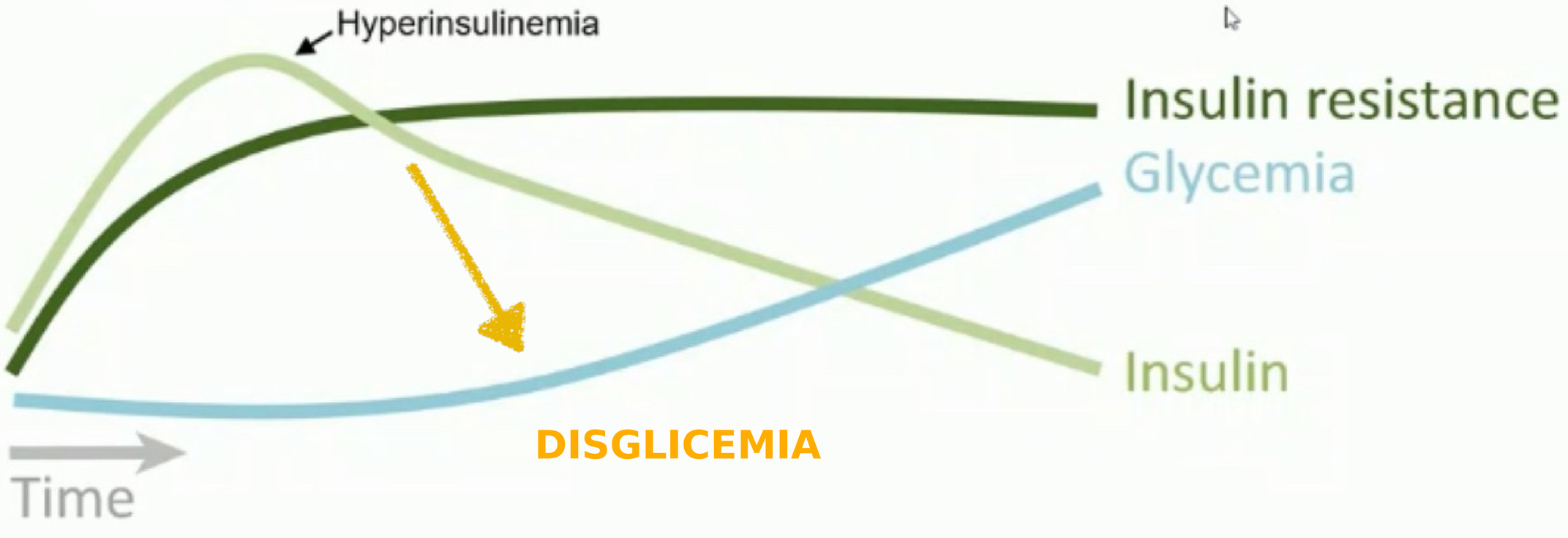
Espectro Sindrome Cardio-Reno-Metabólico



Circulation. 2023;148:1606–1635.

Prediabetes





DISGLICEMIA

Page, MM, Trends Endocrinol Metab, 2018.

Diagnóstico Prediabetes (ADA 2025)

Table 2.2—Criteria defining prediabetes in nonpregnant individuals
A1C 5.7–6.4% (39–47 mmol/mol)
OR
FPG 100 mg/dL (5.6 mmol/L) to 125 mg/dL (6.9 mmol/L) (IFG)
OR
2-h PG during 75-g OGTT 140 mg/dL (7.8 mmol/L) to 199 mg/dL (11.0 mmol/L) (IGT)

Propuesta de nuevo criterio por la IDF : PTGO con medición de glucemia a la hora > 155 mg/dl

The New England
Journal of Medicine

VOLUME 346 FEBRUARY 7, 2002 NUMBER 6

REDUCTION IN THE INCIDENCE OF TYPE 2 DIABETES WITH LIFESTYLE INTERVENTION OR METFORMIN

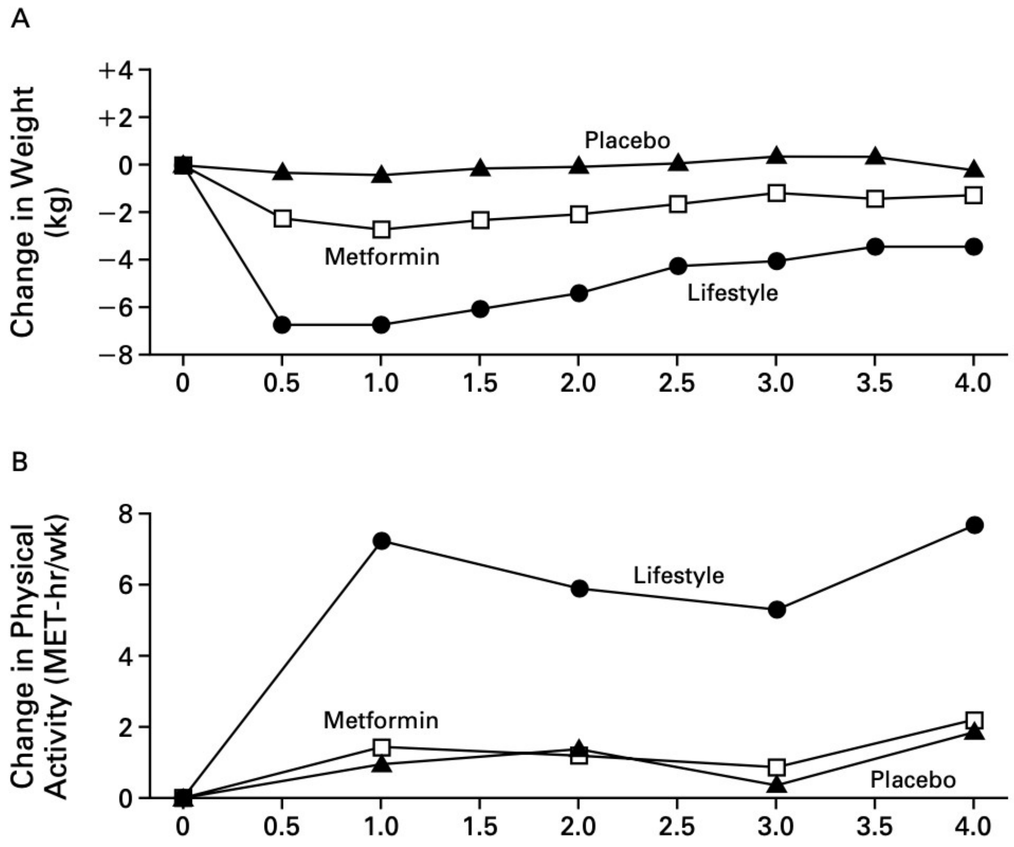
DIABETES PREVENTION PROGRAM RESEARCH GROUP*

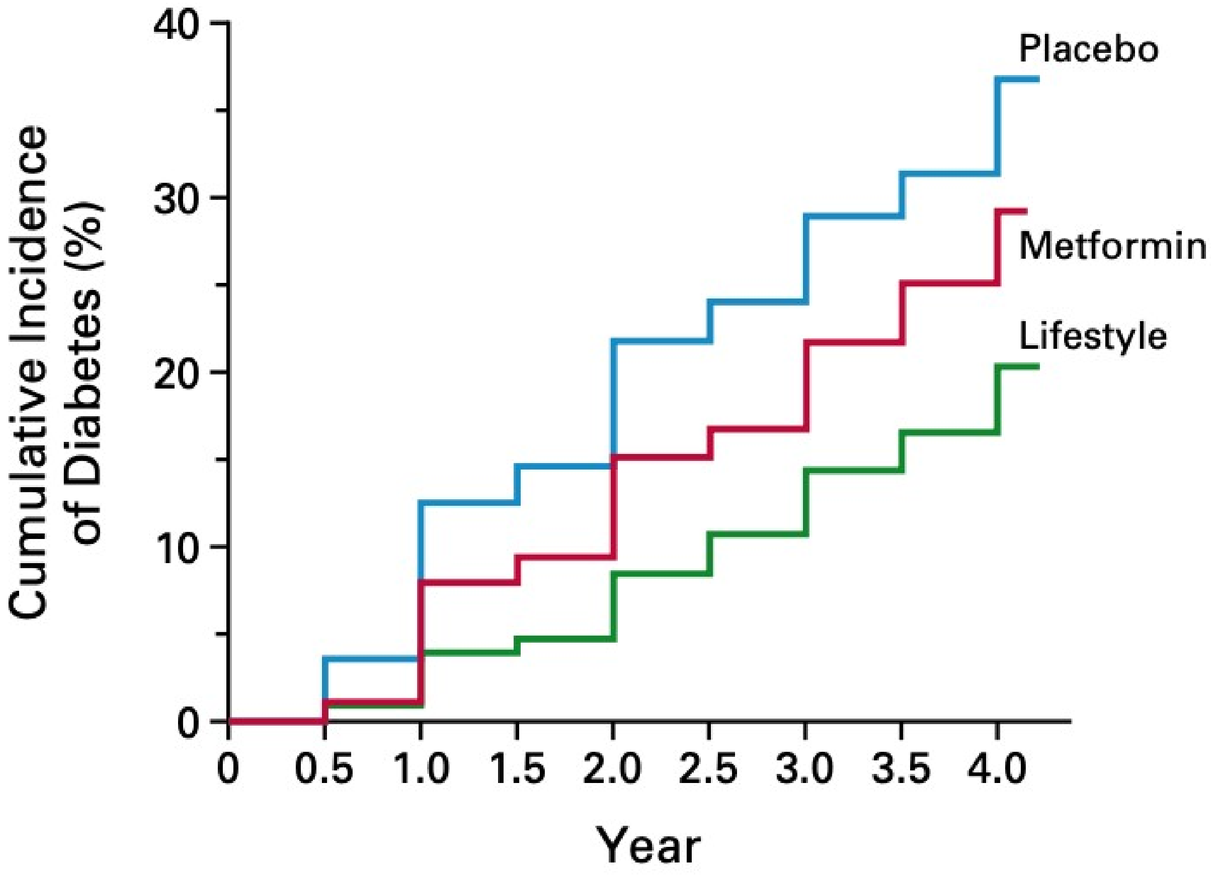
Conclusions Lifestyle changes and treatment with metformin both reduced the incidence of diabetes in persons at high risk. The lifestyle intervention was more effective than metformin. (N Engl J Med 2002; 346:393-403.)

Disminución de Progresión a Diabetes

Diabetes Prevention Program (DPP)

58% con CAMBIOS ESTILO VIDA
31% con METFORMINA





Cambios intensivos estilo vida

Metformina

Placebo

Metformina para Prevención DM2 (ADPP)

TABLE 2. INCIDENCE OF DIABETES.

VARIABLE	NO. OF PARTICIPANTS (%)	INCIDENCE			REDUCTION IN INCIDENCE (95% CI)*		
		PLACEBO	METFORMIN	LIFESTYLE	LIFESTYLE VS. PLACEBO	METFORMIN VS. PLACEBO	LIFESTYLE VS. METFORMIN
		cases/100 person-yr			percent		
Overall	3234 (100)	11.0	7.8	4.8	58 (48 to 66)	31 (17 to 43)	39 (24 to 51)
Age							
25–44 yr	1000 (30.9)	11.6	6.7	6.2	48 (27 to 63)	44 (21 to 60)	8 (−36 to 37)†
45–59 yr	1586 (49.0)	10.8	7.6	4.7	59 (44 to 70)	31 (10 to 46)	41 (18 to 57)†
≥60 yr	648 (20.0)	10.8	9.6	3.1	71 (51 to 83)	11 (−33 to 41)	69 (47 to 82)†
Sex							
Male	1043 (32.3)	12.5	8.1	4.6	65 (49 to 76)	37 (14 to 54)	46 (20 to 63)
Female	2191 (67.7)	10.3	7.6	5.0	54 (40 to 64)	28 (10 to 43)	36 (16 to 51)
Race or ethnic group							
White	1768 (54.7)	10.3	7.8	5.2	51 (35 to 63)	24 (3 to 41)	36 (14 to 52)
African American	645 (19.9)	12.4	7.1	5.1	61 (37 to 76)	44 (16 to 63)	29 (−18 to 58)
Hispanic	508 (15.7)	11.7	8.4	4.2	66 (41 to 80)	31 (−9 to 56)	51 (13 to 72)
American Indian	171 (5.3)	12.9	9.7	4.7	65 (7 to 87)	25 (−72 to 68)	52 (−35 to 83)
Asian‡	142 (4.4)	12.1	7.5	3.8	71 (24 to 89)	38 (−55 to 75)	52 (−46 to 84)
Body-mass index§							
22 to <30	1045 (32.3)	9.0	8.8	3.3	65 (46 to 77)	3 (−36 to 30)†	63 (44 to 76)†
30 to <35	995 (30.8)	8.9	7.6	3.7	61 (40 to 75)	16 (−19 to 41)†	53 (28 to 70)†
≥35	1194 (36.9)	14.3	7.0	7.3	51 (34 to 63)	53 (36 to 65)†	−4 (−47 to 26)†
Plasma glucose¶							
In the fasting state							
95–109 mg/dl‖	2174 (67.2)	6.4	5.5	2.9	55 (38 to 68)	15 (−12 to 36)†	48 (27 to 63)
110–125 mg/dl**	1060 (32.8)	22.3	12.3	8.8	63 (51 to 72)	48 (33 to 60)†	30 (6 to 48)
Two hours after an oral load							
140–153 mg/dl	1049 (32.4)	7.1	4.3	1.8	76 (58 to 86)†	41 (11 to 61)	59 (27 to 77)
154–172 mg/dl	1103 (34.1)	10.3	6.6	4.4	60 (41 to 72)†	38 (13 to 56)	34 (2 to 56)
173–199 mg/dl	1082 (33.5)	16.1	12.3	8.5	50 (33 to 63)†	26 (3 to 43)	33 (9 to 51)

Recommendations

3.7 Metformin for the prevention of type 2 diabetes should be considered in adults at high risk of type 2 diabetes, as typified by the DPP, especially those aged 25–59 years with BMI ≥35 kg/m^2, higher fasting plasma glucose (e.g., ≥110 mg/dL [≥6 mmol/L]), and higher A1C (e.g., ≥6.0% [≥42 mmol/mol]), and in individuals with prior gestational diabetes mellitus. **A**

Standards of Care ADA 2025

Diabetes

Diagnóstico Diabetes (ADA 2025)

Table 2.1—Criteria for the diagnosis of diabetes in nonpregnant individuals
A1C ≥6.5% (≥48 mmol/mol). The test should be performed in a laboratory using a method that is NGSP certified and standardized to the DCCT assay.*
OR
FPG ≥126 mg/dL (≥7.0 mmol/L). Fasting is defined as no caloric intake for at least 8 h.*
OR
2-h PG ≥200 mg/dL (≥11.1 mmol/L) during OGTT. The test should be performed as described by the WHO, using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water.*
OR
In an individual with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥200 mg/dL (≥11.1 mmol/L). Random is any time of the day without regard to time since previous meal.

Tratamiento DM2: Estilos de Vida

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts

R. Estruch, E. Ros, J. Salas-Salvadó, M.-I. Covas, D. Corella, F. Arós, E. Gómez-Gracia, V. Ruiz-Gutiérrez, M. Fiol, J. Lapetra, R.M. Lamuela-Raventos, L. Serra-Majem, X. Pintó, J. Basora, M.A. Muñoz, J.V. Sorlí, J.A. Martínez, M. Fitó, A. Gea, M.A. Hernán, and M.A. Martínez-González, for the PREDIMED Study Investigators*

CONCLUSIONS

In this study involving persons at high cardiovascular risk, the incidence of major cardiovascular events was lower among those assigned to a Mediterranean diet supplemented with extra-virgin olive oil or nuts than among those assigned to a reduced-fat diet. (Funded by Instituto de Salud Carlos III, Spanish Ministry of Health, and others; Current Controlled Trials number, ISRCTN35739639.)

PREDIMED

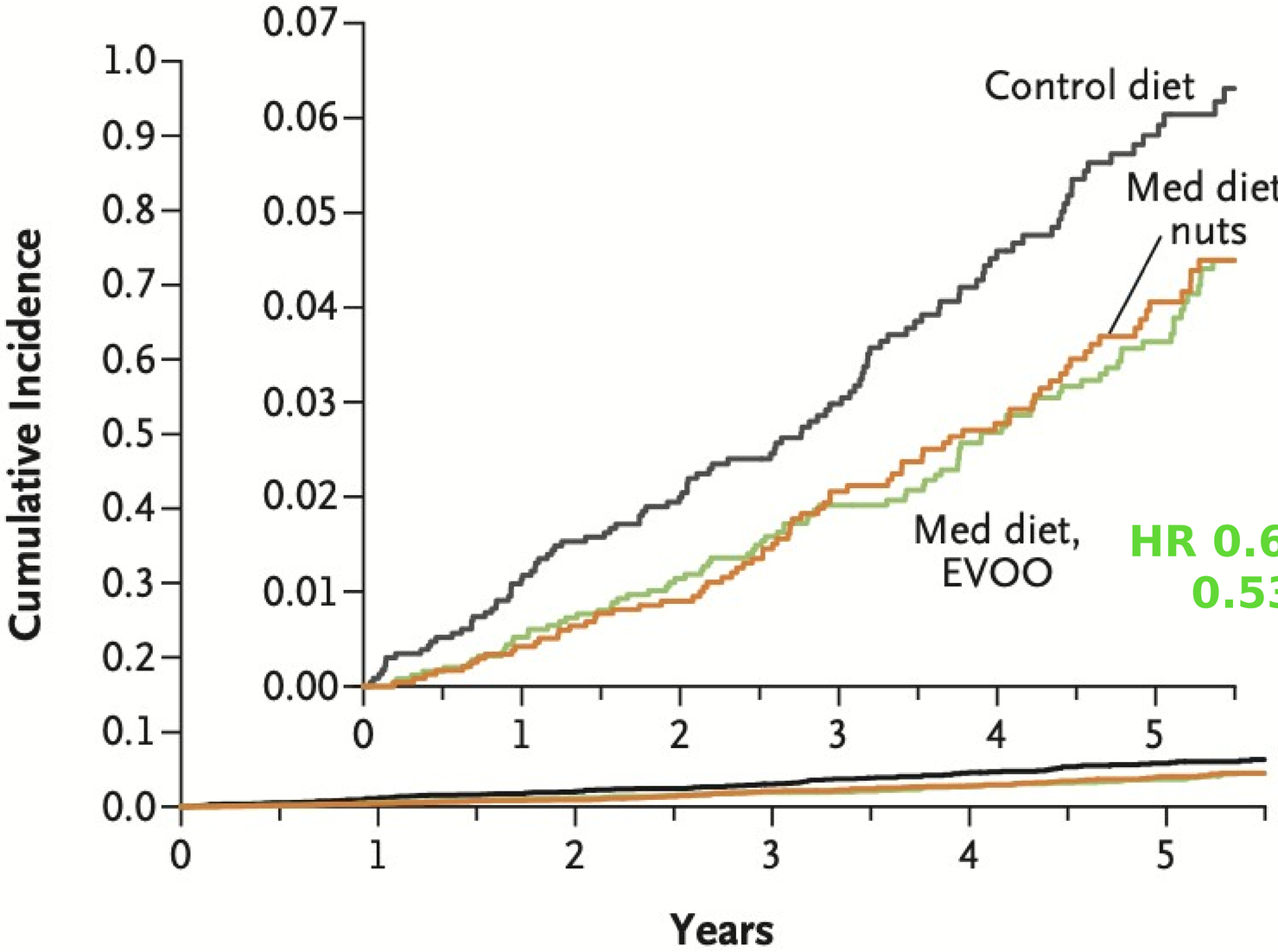
Outcome primario compuesto:

IAM, Stroke o muerte CV

Dieta habitual

Dieta Mediterranea + Aceite oliva (EVOO)

Dieta Mediterranea + Nueces (*nuts*)

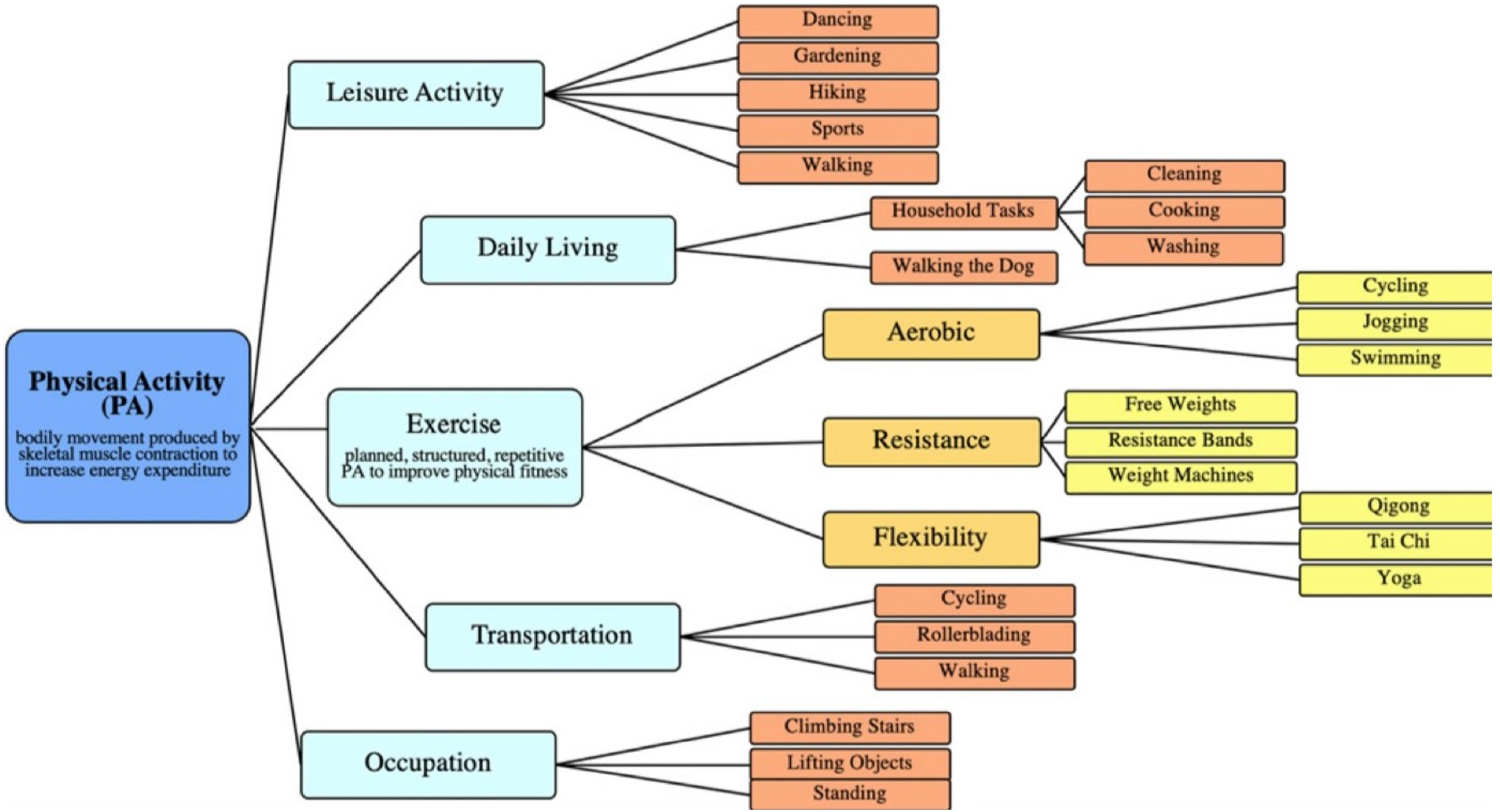


HR 0.72 (95%IC 0.54-0.95)

HR 0.69 (95%IC 0.53-0.91)

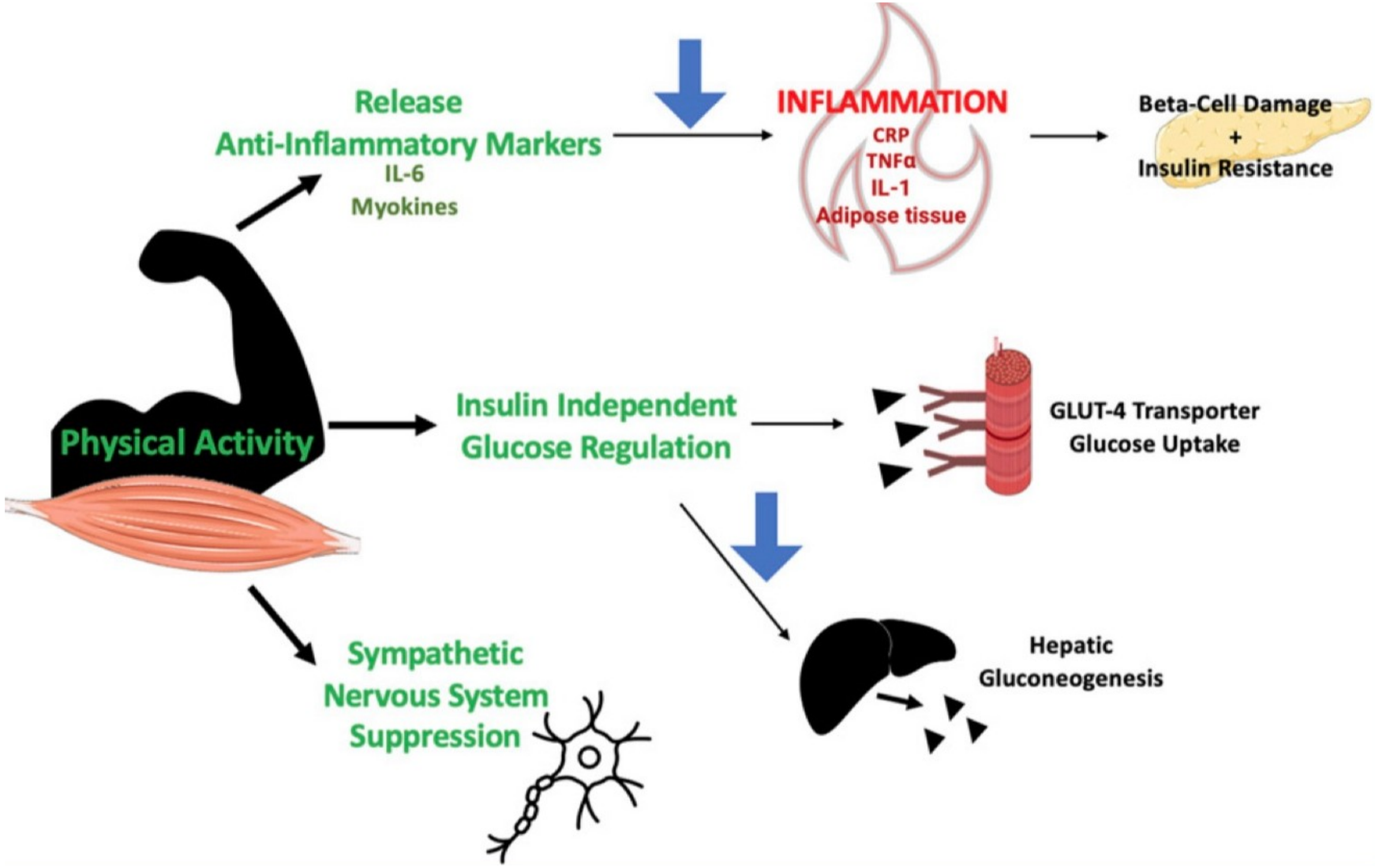
Grupo de Alimento	Frecuencia de consumo
VERDURAS	3 o + porciones/día. Crudas y cocidas.
FRUTAS	2 o + porciones al día
ACEITE DE OLIVA	Principal fuente de grasa
CEREALES/ALMIDONES	Diaria, moderada cantidad.
LEGUMBRES	3 Veces/semana
FRUTOS SECOS	30 gr/3 veces por semana
LACTEOS/Yogur/Quesos	2 a 4 porciones/día
HUEVOS	1 unidad por día
PESCADOS y Mariscos	2 a 4 veces/semana
AVES	2 a 4 veces/semana
CARNE ROJA o procesadas	1 vez/semana

Actividad Física/Ejercicio



Rao Bassi, Sandhya, *The Impact Of Physical Activity in Patients with type 2 Diabetes*, American Journal of Lifestyle Medicina, Vol 19 N1, 2023.

Beneficios Actividad Física



Rao Bassi, Sandhya, *The Impact Of Physical Activity in Patients with type 2 Diabetes*, American Journal of Lifestyle Medicina, Vol 19 N1, 2023.

Ejercicio Aeróbico/Resistencia en DM2

Manuscript	Study Type	Duration	Aerobic (% A1c)	Resistance (% A1c)	Combined (% A1c)
Snowling 2006[29]	Meta-Analysis (27 RCTs)	5-104 weeks	−0.37	−0.29	−0.43
Umpierre 2011[30]	Meta-analysis (47 RCTs)	≥12 weeks	−0.73	−0.57	−0.51
Bacchi 2012[32]	RCT RAED2 study	4 months	−0.40	−0.35	—
Sigal 2007[33]	RCT DARE study	6 months	−0.51	−0.38	—
Church 2010[34]	RCT HART-D Study	9 months	−0.24	−0.16	−0.34
Yang 2014[35]	Meta-analysis (12 RCTs)	≥8 weeks	−0.46	−0.32	—
Mannucci 2021[36]	Meta-analysis (25 RCTs)	≥3 months	−0.2	−0.2	−0.4
Pan 2018[37]	Meta-analysis (37 RCTs)	7 days – 6 months	−0.30	−0.30	−0.53

Rao Bassi, Sandhya, *The Impact Of Physical Activity in Patients with type 2 Diabetes*, American Journal of Lifestyle Medicina, Vol 19 N1, 2023.

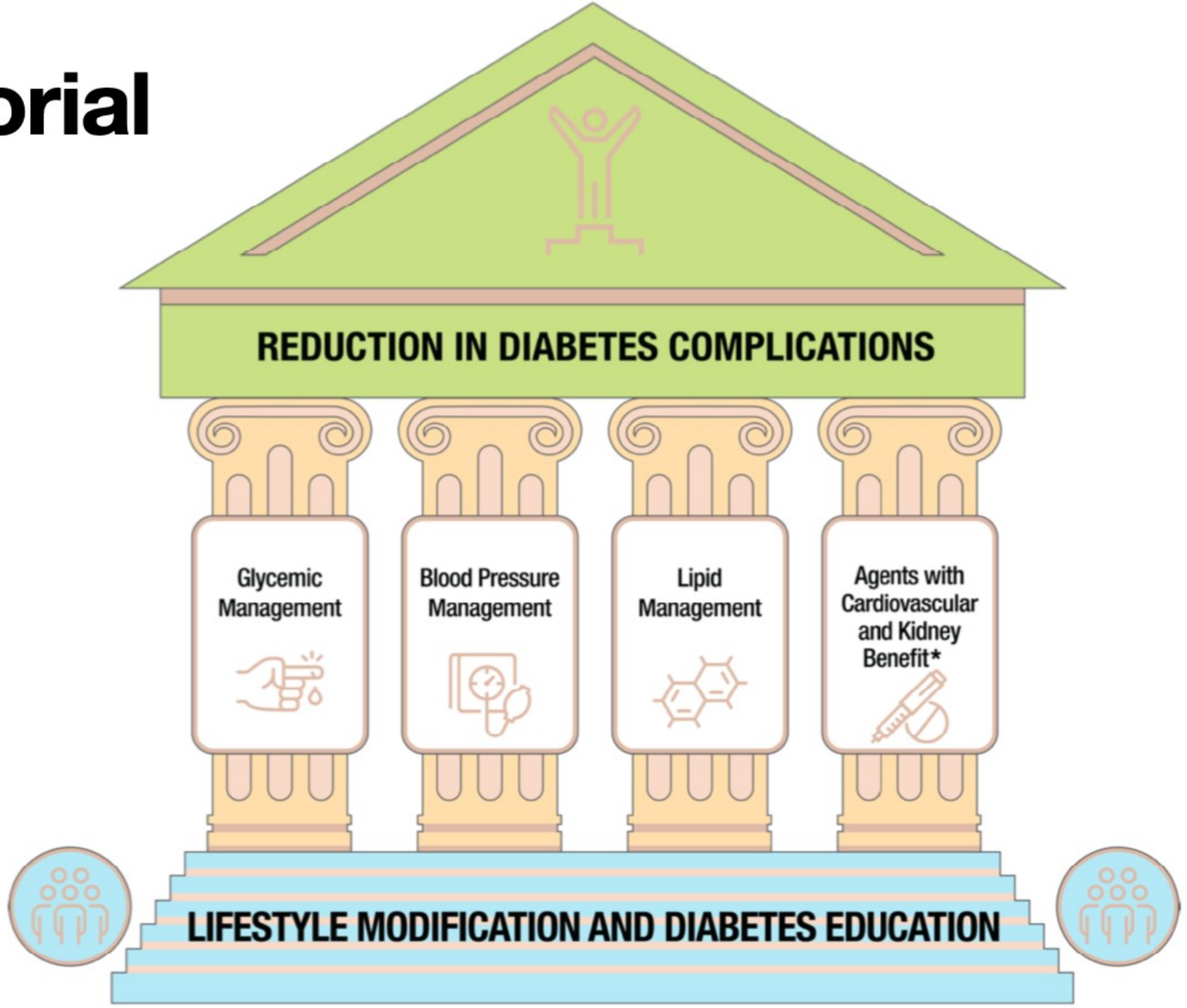
Recommendation	Patient Task	Examples
Identify Motivators	• Identify the motivating factors towards improving PA[97]	• *Active for grandchildren*
		• *Avoiding the need for further medication*
		• *Increased energy*
		• *Losing weight*
		• *Maintaining physical independence*
		• *Staying healthy*
		• *Stress reduction*
Set Goals	• Create a "SMART" goal[98-100] ○ Specific, Measurable, Attainable, Realistic, and Timely ○ Revisit the goal regularly to modify and extend the goal	• *Walk for 15 minutes a day, three times a week, for the next two weeks*
		• *Take the 3 flights of stairs up to the office every day for the next week*
		• *Run to the mailbox and back three times in the next week*
Remove Barriers	• Consider the obstacles to regular PA and the solutions to eliminate these barriers	• *Solution to difficulty committing:[101] apply for a gym membership, choose class based exercise programs or group sports, plan exercise dates with friends, only watch television while doing PA*
		• *Solution to lack of time: aim for shorter and more frequent episodes of PA, plan social engagements or time with family around PA, utilize online workouts from the home*

Monitor Progress	• Identify ways to track personal progress towards increasing PA	• *Regular visits with healthcare providers to check hemoglobin A1c and blood glucose levels*[102]
		• *Utilization of a Fitbit, Apple Watch, or pedometer*[103-105]
		• *Online check-in with fitness trainer or motivational coach*
Identify Social Support System	• Identify the social support to engage in PA with	• *Involve family and friends*[107,106]
		• *Group activities: Zumba, walking, soccer*[108,95]
		• *Utilize social media to create a community, provide encouragement, and host competitive interactions*[110,109]
Consider Environmental Factors	• Consider the home and local resources available for PA[112,111]	• *Home exercise equipment vs. training which does not require equipment (squats, sit-ups)*
		• *Nearby gym or fitness center vs. local park or mall*
		• *Safe neighborhoods with sidewalks conducive for outdoor walking vs. indoor PA*

Tratamiento DM2: Farmacológico

Manejo Multifactorial

EL **ENFRENTAMIENTO MULTIFACTORIAL** ES LA MEDIDA **MÁS EFECTIVA** PARA PREVENIR LA PATOLOGIA CARDIOVASCULAR EN DM2.



Diabetes Care 2022;45(Suppl. 1):S144–S175

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Effect of a Multifactorial Intervention on Mortality in Type 2 Diabetes

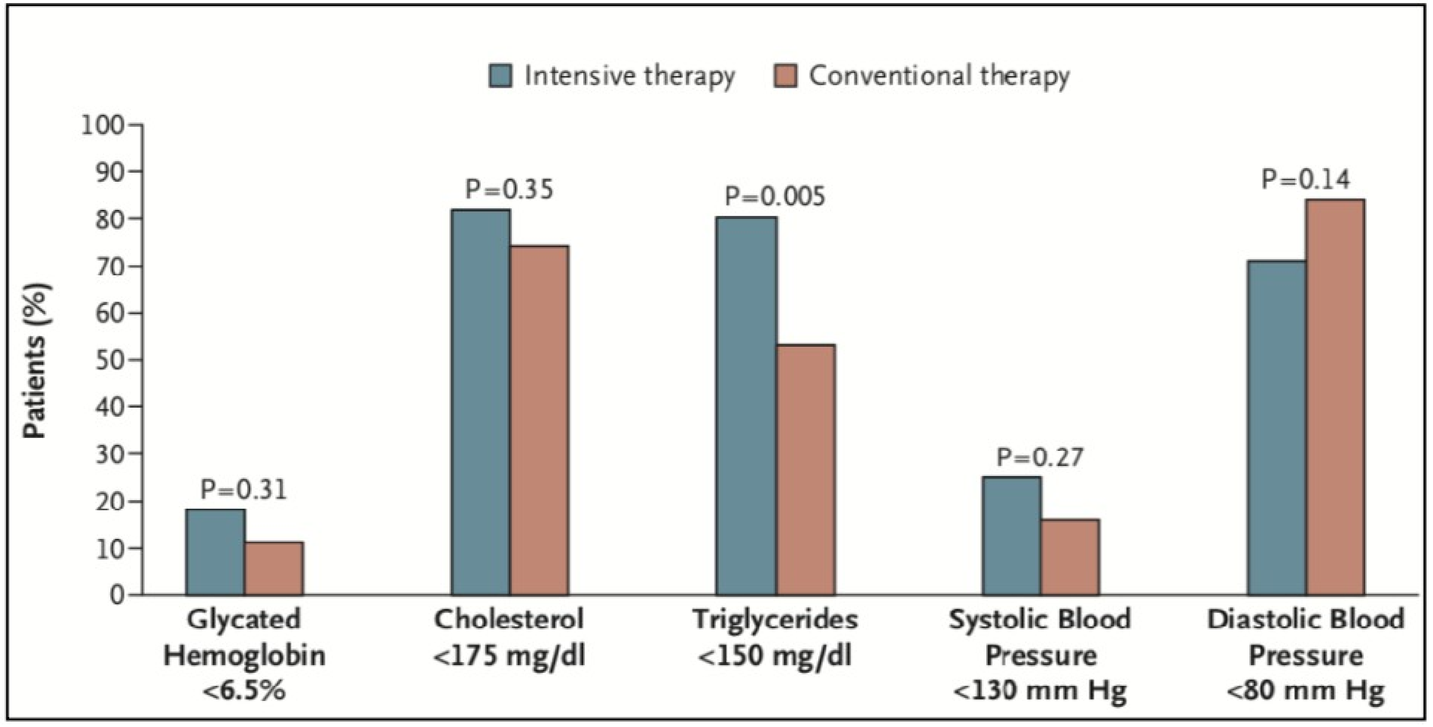
Peter Gæde, M.D., D.M.Sc., Henrik Lund-Andersen, M.D., D.M.Sc., Hans-Henrik Parving, M.D., D.M.Sc., and Oluf Pedersen, M.D., D.M.Sc.

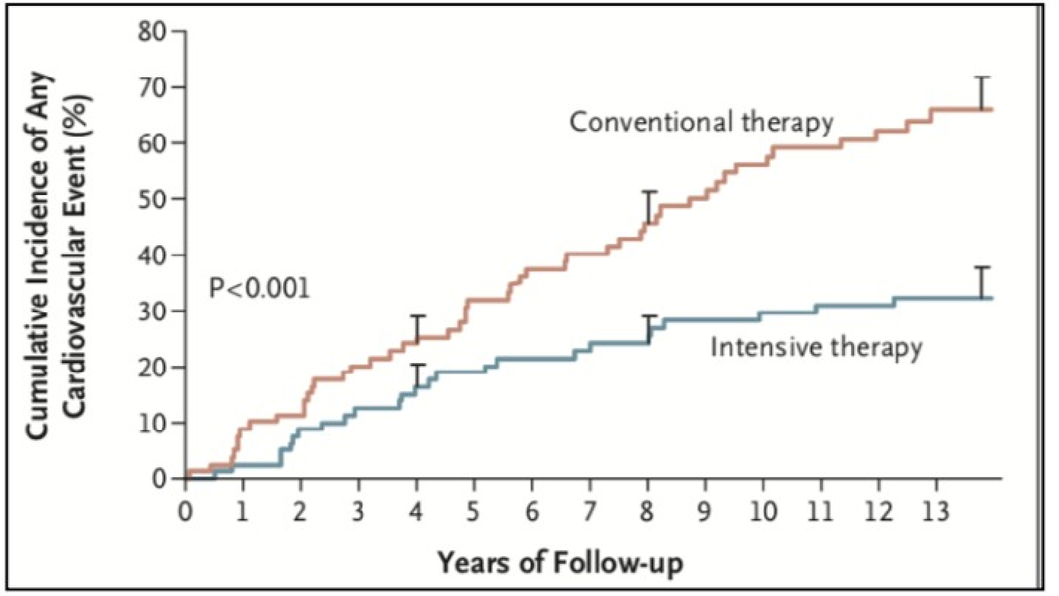
CONCLUSIONS

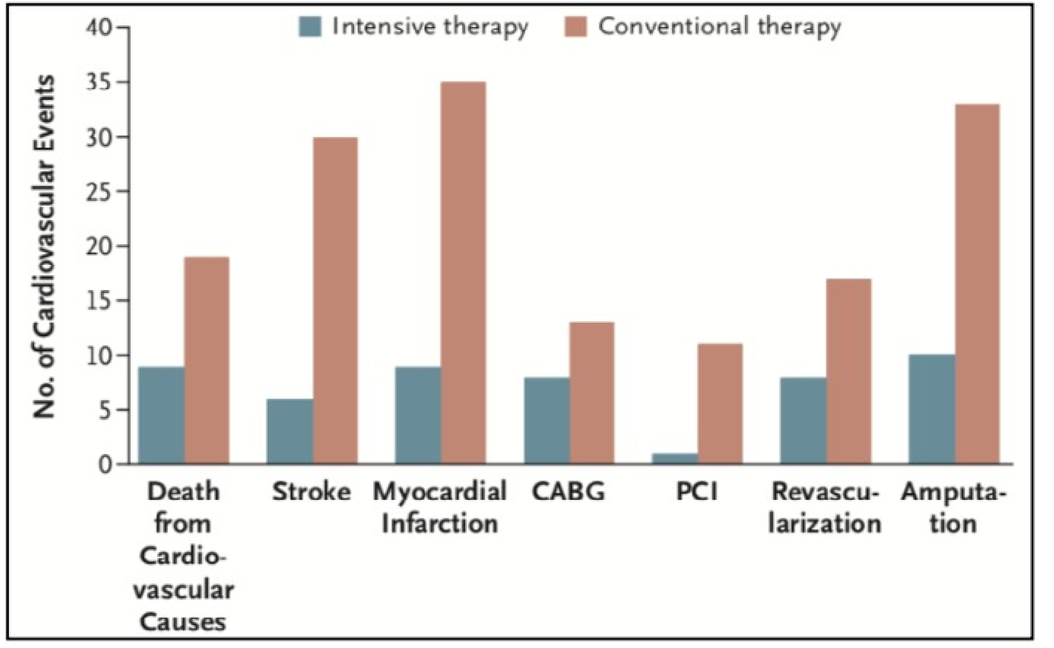
In at-risk patients with type 2 diabetes, intensive intervention with multiple drug combinations and behavior modification had sustained beneficial effects with respect to vascular complications and on rates of death from any cause and from cardiovascular causes. (ClinicalTrials.gov number, NCT00320008.)

Manejo Multifactorial

Steno 2 trial



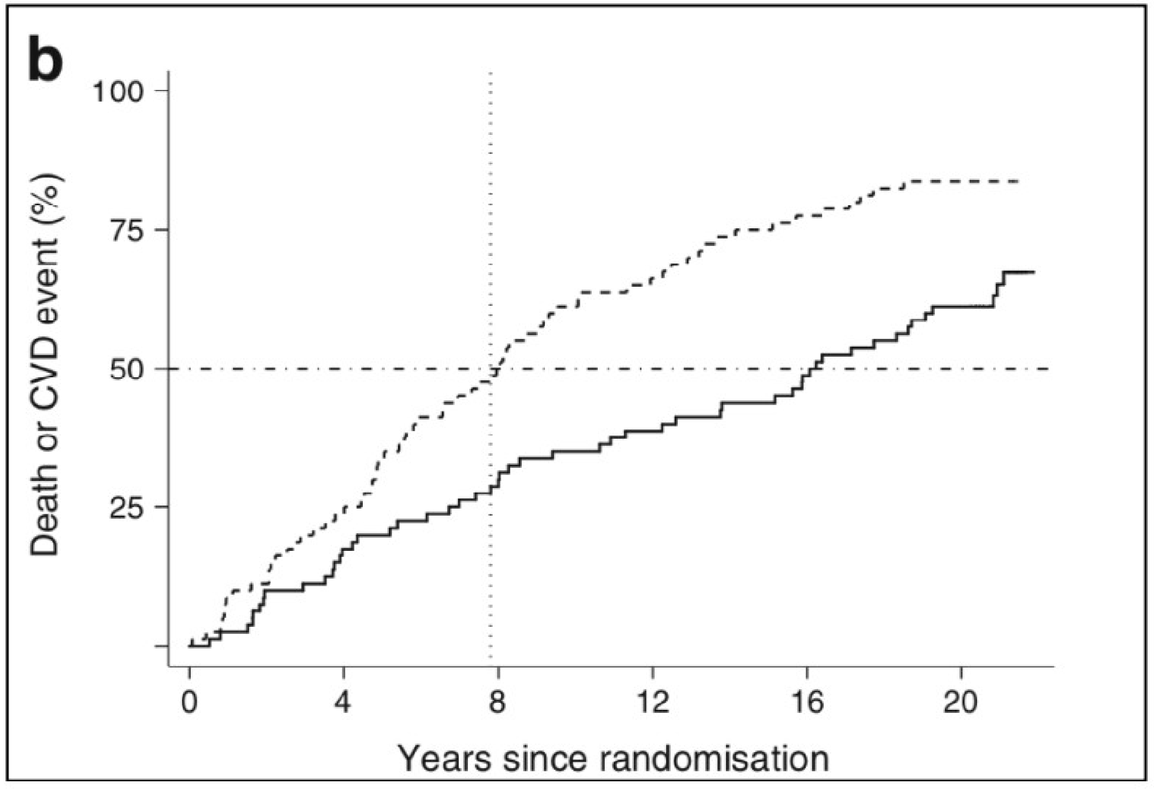


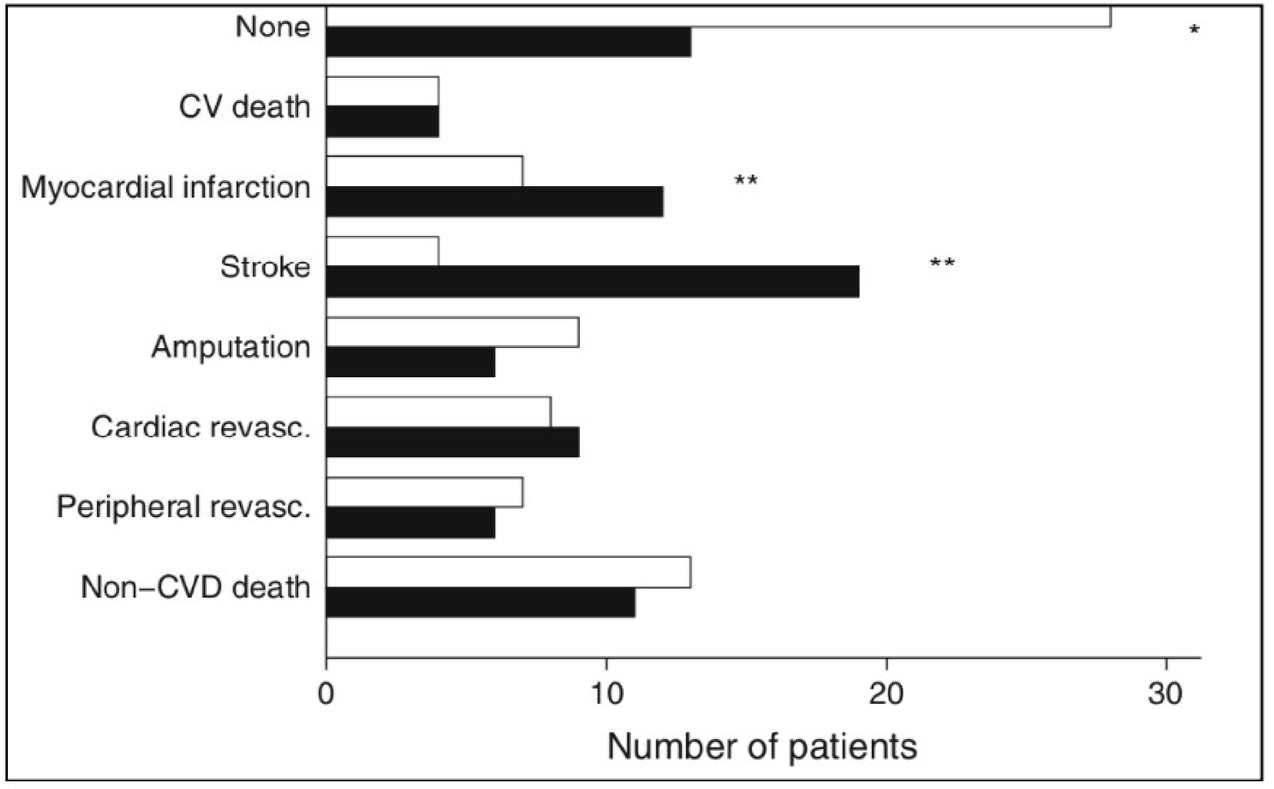


Manejo Multifactorial

Steno 2 : seguimiento a 25 años

Years of life gained by multifactorial intervention in patients with type 2 diabetes mellitus and microalbuminuria: 21 years follow-up on the Steno-2 randomised trial





Diabetologia (2016) 59:2298–2307

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

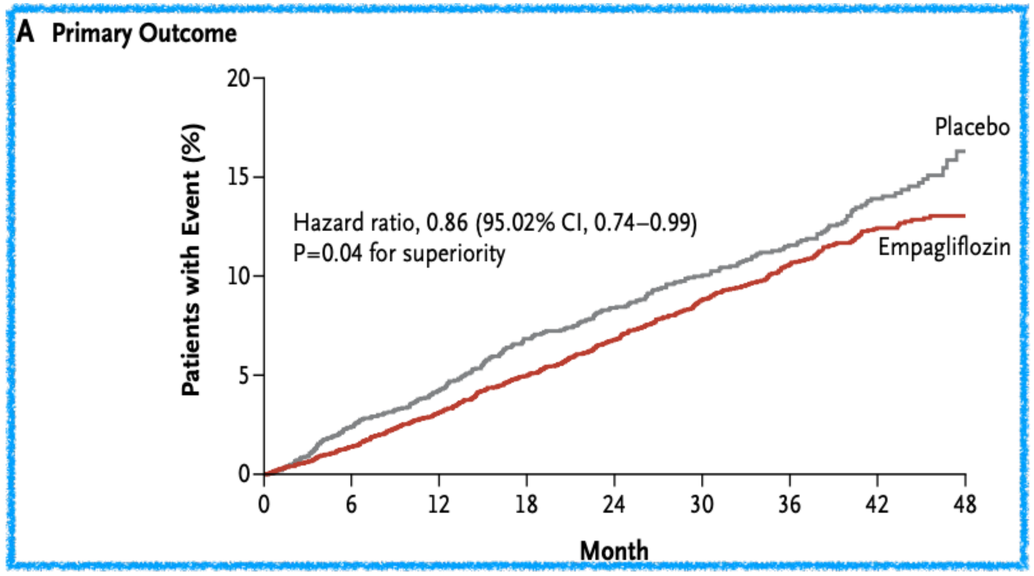
Empagliflozin, Cardiovascular Outcomes, and Mortality in Type 2 Diabetes

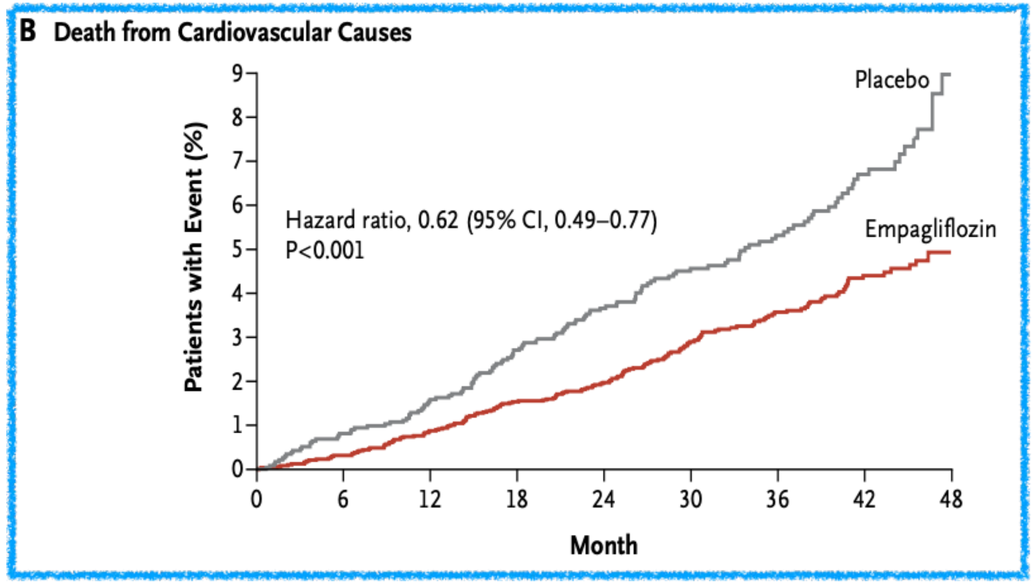
Bernard Zinman, M.D., Christoph Wanner, M.D., John M. Lachin, Sc.D., David Fitchett, M.D., Erich Bluhmki, Ph.D., Stefan Hantel, Ph.D., Michaela Mattheus, Dipl. Biomath., Theresa Devins, Dr.P.H., Odd Erik Johansen, M.D., Ph.D., Hans J. Woerle, M.D., Uli C. Broedl, M.D., and Silvio E. Inzucchi, M.D., for the EMPA-REG OUTCOME Investigators

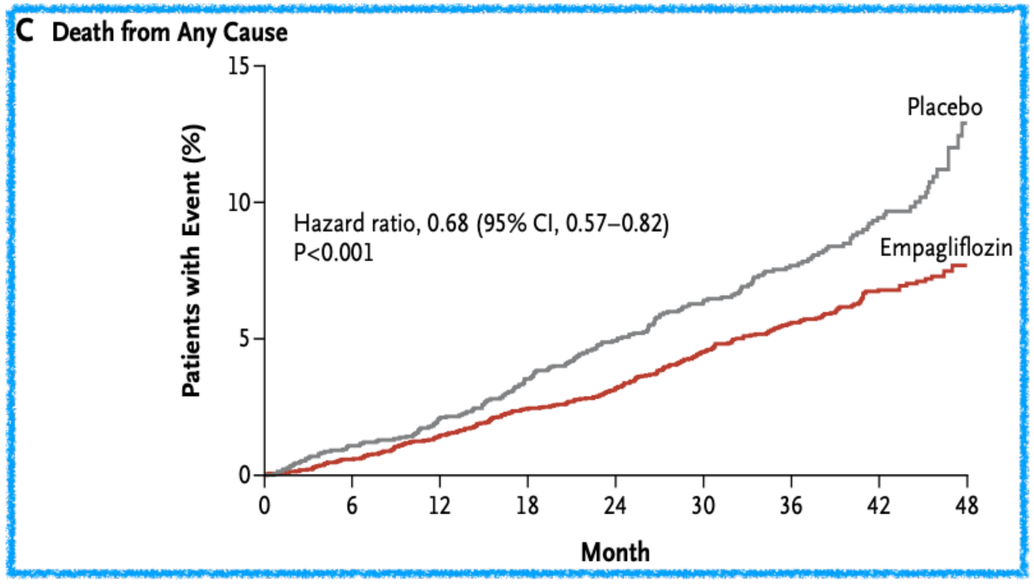
CONCLUSIONS

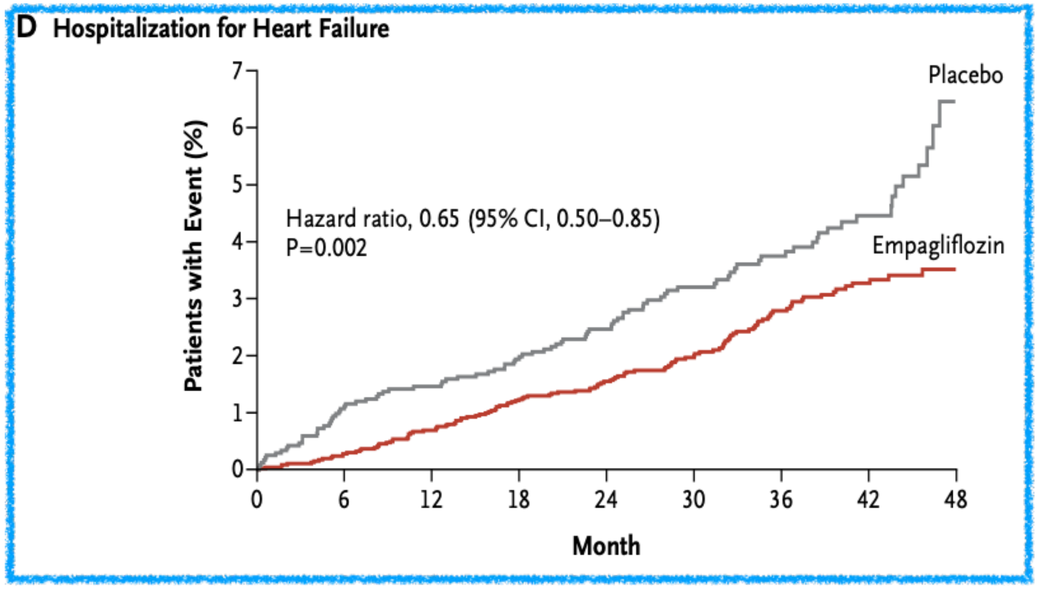
Patients with type 2 diabetes at high risk for cardiovascular events who received empagliflozin, as compared with placebo, had a lower rate of the primary composite cardiovascular outcome and of death from any cause when the study drug was added to standard care. (Funded by Boehringer Ingelheim and Eli Lilly; EMPA-REG OUTCOME ClinicalTrials.gov number, NCT01131676.)

EMPA REG

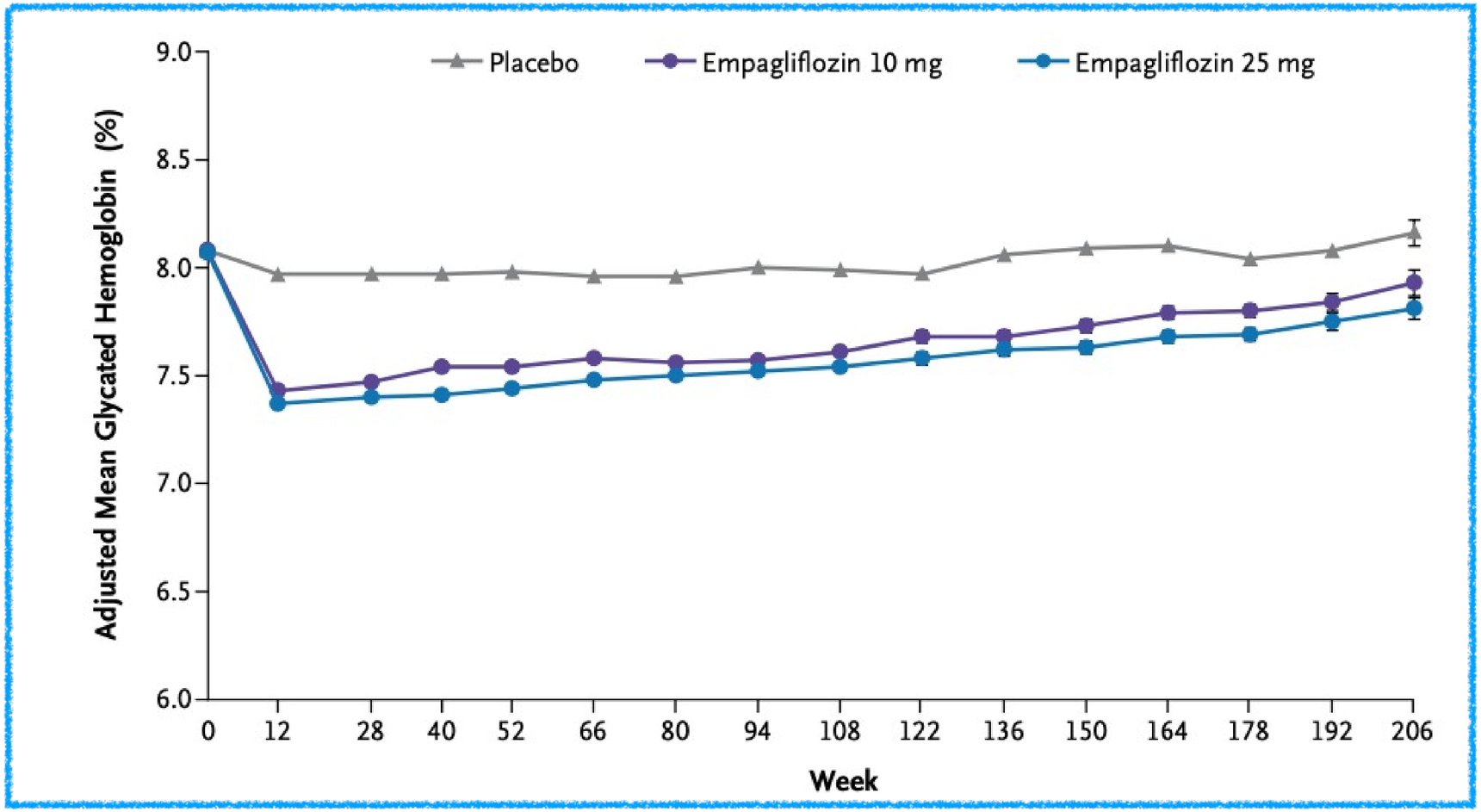

A Primary Outcome
Patients with Event (%)
Hazard ratio, 0.86 (95.02% CI, 0.74–0.99)
P=0.04 for superiority
Placebo
Empagliflozin
Month


B Death from Cardiovascular Causes
Patients with Event (%)
Hazard ratio, 0.62 (95% CI, 0.49–0.77)
P<0.001
Placebo
Empagliflozin
Month

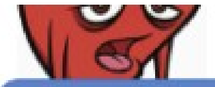

C Death from Any Cause
Patients with Event (%)
Hazard ratio, 0.68 (95% CI, 0.57–0.82)
P<0.001
Placebo
Empagliflozin
Month


D Hospitalization for Heart Failure
Patients with Event (%)
Hazard ratio, 0.65 (95% CI, 0.50–0.85)
P=0.002
Placebo
Empagliflozin
Month

EMPA REG


Placebo
Empagliflozin 10 mg
Empagliflozin 25 mg
Adjusted Mean Glycated Hemoglobin (%)
9.0
8.5
8.0
7.5
7.0
6.5
6.0
0
12
28
40
52
66
80
94
108
122
136
150
164
178
192
206
Week

Resumen Trials iSGLT2



Risk Reduction (95% CI) SGLT-2 inhibitors	MACE	CV Death	Heart Failure	Kidney Combined Outcomes	Total Mortality	Trial Duration (yrs)
EMPA-REG Empagliflozin	**0.86** (0.74, 0.99) **NNT 63**	**0.62** (0.49, 0.77) **NNT 45**	**0.65** (0.50,0.85) **NNT 71**	**0.54** (0.40, 0.75) **NNT 71**	**0.68** (0.57, 0.82) **NNT 38**	3.1
CANVAS/R Canagliflozin	**0.86** (0.75, 0.97) **NNT 94**	**0.87** (0.72 1.06)	**0.67** (0.52 0.87) **NNT 86**	**0.60** (0.47, 0.77) **NNT 83**	**0.87** (0.74, 1.01)	3.4
DECLARE-TIMI Dapagliflozin	**0.93** (0.84, 1.03)	**0.98** (0.82 1.17)	**0.73** (0.61 0.88) **NNT 125**	**0.53** (0.43, 0.66) **NNT 40**	**0.93** (0.82 1.04)	4.2
VERTIS CV Ertugliflozin	**0.97** (0.85, 1.11)	**0.92** (0.77, 1.11)	**0.70** (0.54 0.90) **NNT 91**	**0.81** (0.64, 1.03)	**0.93** (0.80, 1.08)	3.5

Swiss Med Wkly. 2023;153:40060

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

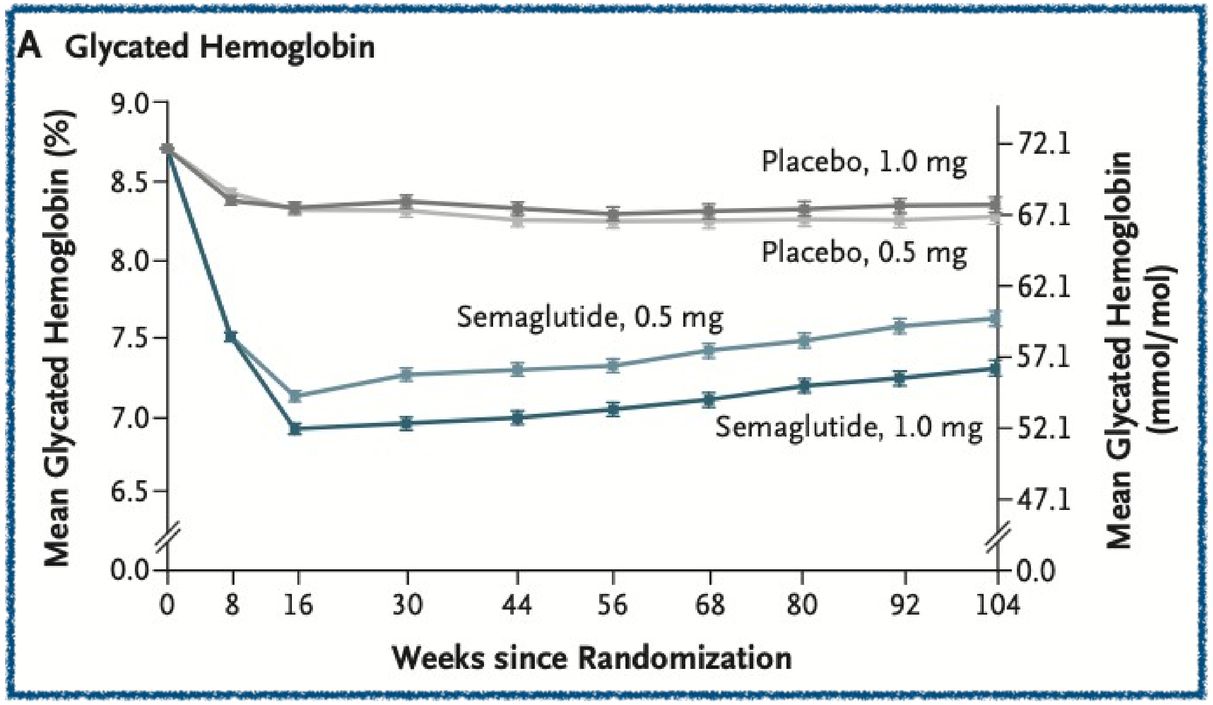
Semaglutide and Cardiovascular Outcomes in Patients with Type 2 Diabetes

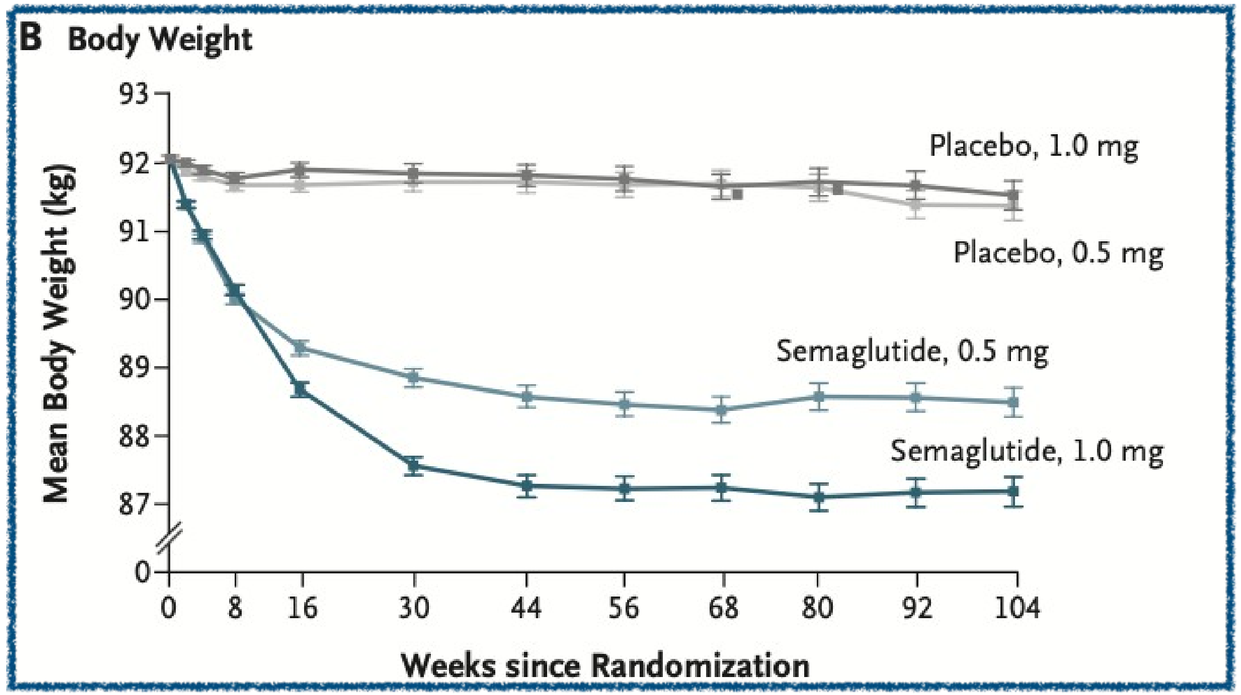
Steven P. Marso, M.D., Stephen C. Bain, M.D., Agostino Consoli, M.D., Freddy G. Eliaschewitz, M.D., Esteban Jódar, M.D., Lawrence A. Leiter, M.D., Ildiko Lingvay, M.D., M.P.H., M.S.C.S., Julio Rosenstock, M.D., Jochen Seufert, M.D., Ph.D., Mark L. Warren, M.D., Vincent Woo, M.D., Oluf Hansen, M.Sc., Anders G. Holst, M.D., Ph.D., Jonas Pettersson, M.D., Ph.D., and Tina Vilsbøll, M.D., D.M.Sc., for the SUSTAIN-6 Investigators*

CONCLUSIONS

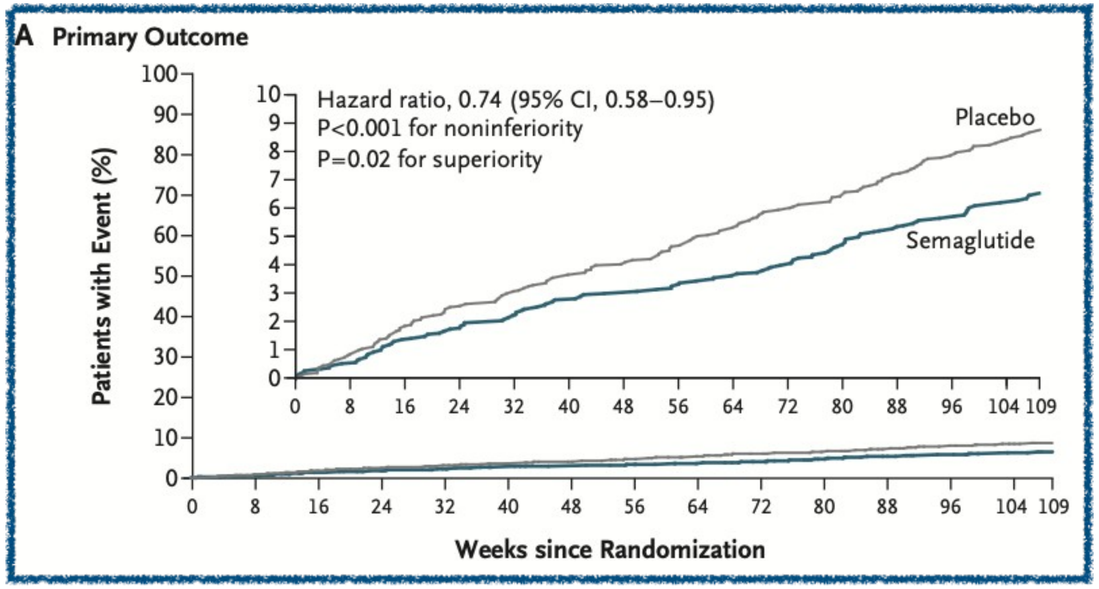
In patients with type 2 diabetes who were at high cardiovascular risk, the rate of cardiovascular death, nonfatal myocardial infarction, or nonfatal stroke was significantly lower among patients receiving semaglutide than among those receiving placebo, an outcome that confirmed the noninferiority of semaglutide. (Funded by Novo Nordisk; SUSTAIN-6 ClinicalTrials.gov number, NCT01720446.)

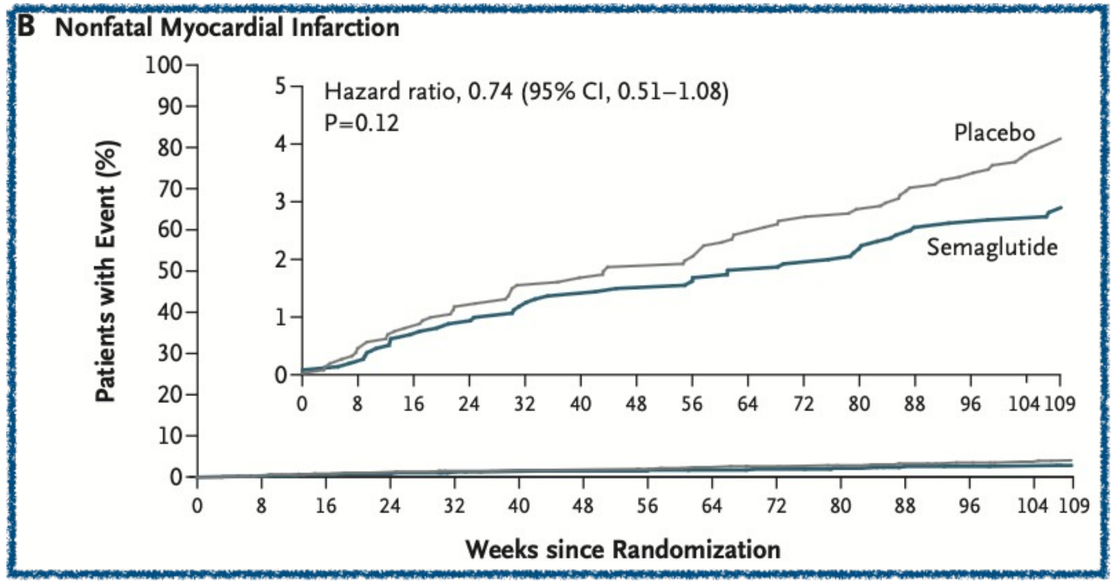
SUSTAIN-6

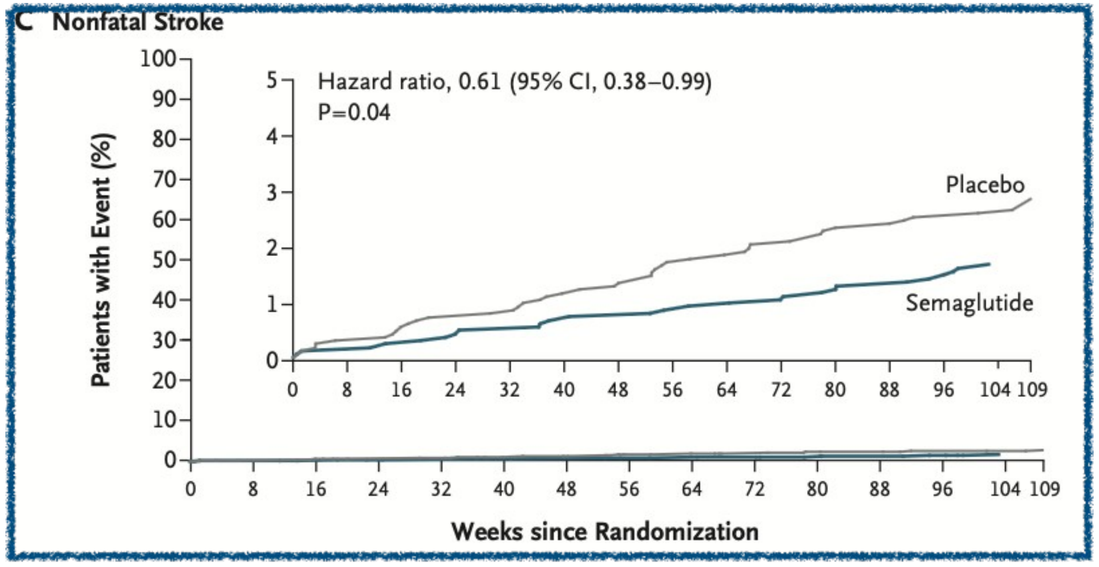

A Glycated Hemoglobin
Mean Glycated Hemoglobin (%)
9.0
8.5
8.0
7.5
7.0
6.5
0.0
Placebo, 1.0 mg
Placebo, 0.5 mg
Semaglutide, 0.5 mg
Semaglutide, 1.0 mg
72.1
67.1
62.1
57.1
52.1
47.1
0.0
Mean Glycated Hemoglobin (mmol/mol)
0
8
16
30
44
56
68
80
92
104
Weeks since Randomization

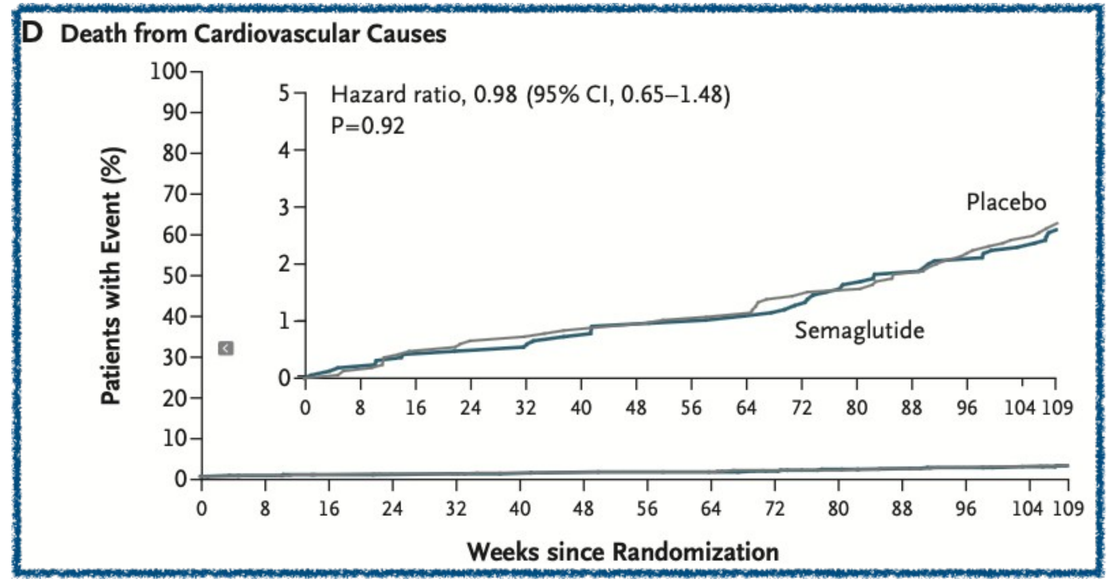

B Body Weight
Mean Body Weight (kg)
93
92
91
90
89
88
87
0
Placebo, 1.0 mg
Placebo, 0.5 mg
Semaglutide, 0.5 mg
Semaglutide, 1.0 mg
0
8
16
30
44
56
68
80
92
104
Weeks since Randomization

SUSTAIN-6

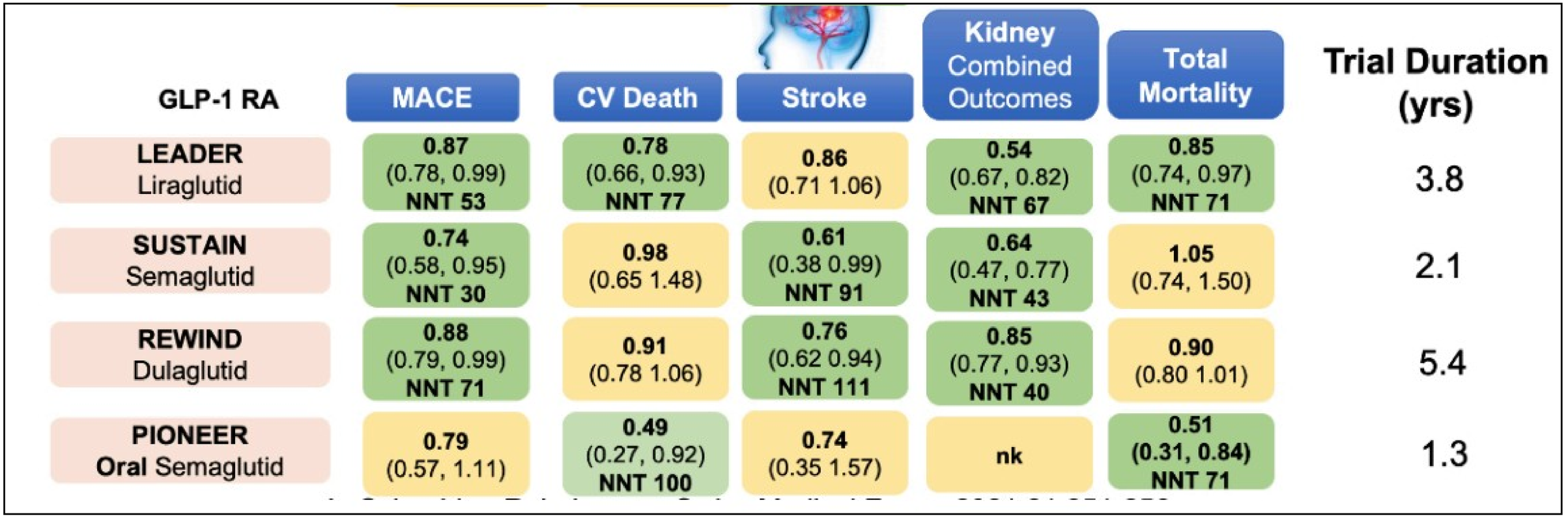

A Primary Outcome
Hazard ratio, 0.74 (95% CI, 0.58–0.95)
P<0.001 for noninferiority
P=0.02 for superiority
Placebo
Semaglutide
Patients with Event (%)
Weeks since Randomization


B Nonfatal Myocardial Infarction
Hazard ratio, 0.74 (95% CI, 0.51–1.08)
P=0.12
Placebo
Semaglutide
Patients with Event (%)
Weeks since Randomization


C Nonfatal Stroke
Hazard ratio, 0.61 (95% CI, 0.38–0.99)
P=0.04
Placebo
Semaglutide
Patients with Event (%)
Weeks since Randomization


D Death from Cardiovascular Causes
Hazard ratio, 0.98 (95% CI, 0.65–1.48)
P=0.92
Placebo
Semaglutide
Patients with Event (%)
Weeks since Randomization

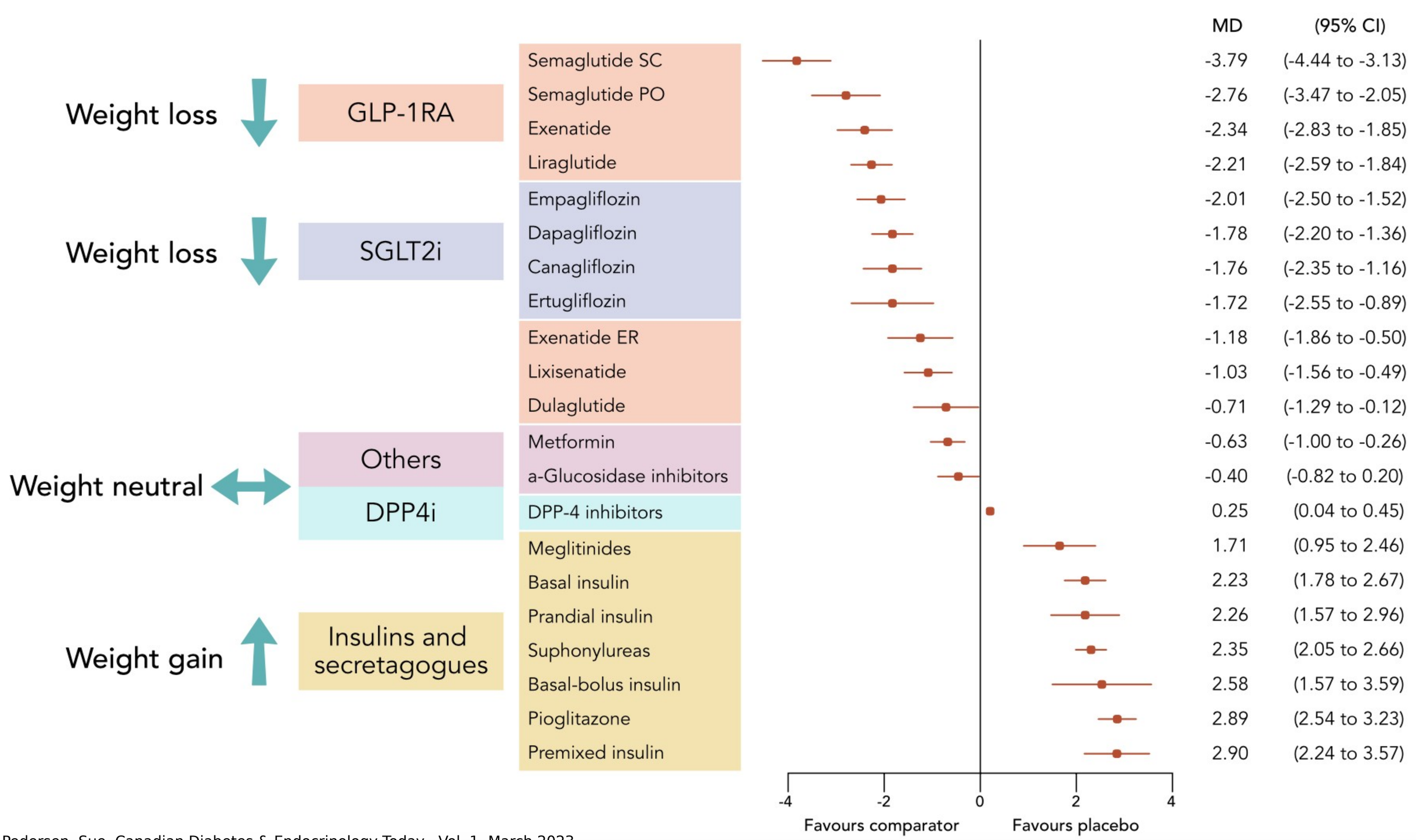
Resumen Trials GLP-1a



GLP-1 RA	MACE	CV Death	Stroke	Kidney Combined Outcomes	Total Mortality	Trial Duration (yrs)
LEADER Liraglutid	**0.87** (0.78, 0.99) **NNT 53**	**0.78** (0.66, 0.93) **NNT 77**	**0.86** (0.71 1.06)	**0.54** (0.67, 0.82) **NNT 67**	**0.85** (0.74, 0.97) **NNT 71**	3.8
SUSTAIN Semaglutid	**0.74** (0.58, 0.95) **NNT 30**	**0.98** (0.65 1.48)	**0.61** (0.38 0.99) **NNT 91**	**0.64** (0.47, 0.77) **NNT 43**	**1.05** (0.74, 1.50)	2.1
REWIND Dulaglutid	**0.88** (0.79, 0.99) **NNT 71**	**0.91** (0.78 1.06)	**0.76** (0.62 0.94) **NNT 111**	**0.85** (0.77, 0.93) **NNT 40**	**0.90** (0.80 1.01)	5.4
PIONEER **Oral** Semaglutid	**0.79** (0.57, 1.11)	**0.49** (0.27, 0.92) **NNT 100**	**0.74** (0.35 1.57)	**nk**	**0.51** **(0.31, 0.84)** **NNT 71**	1.3

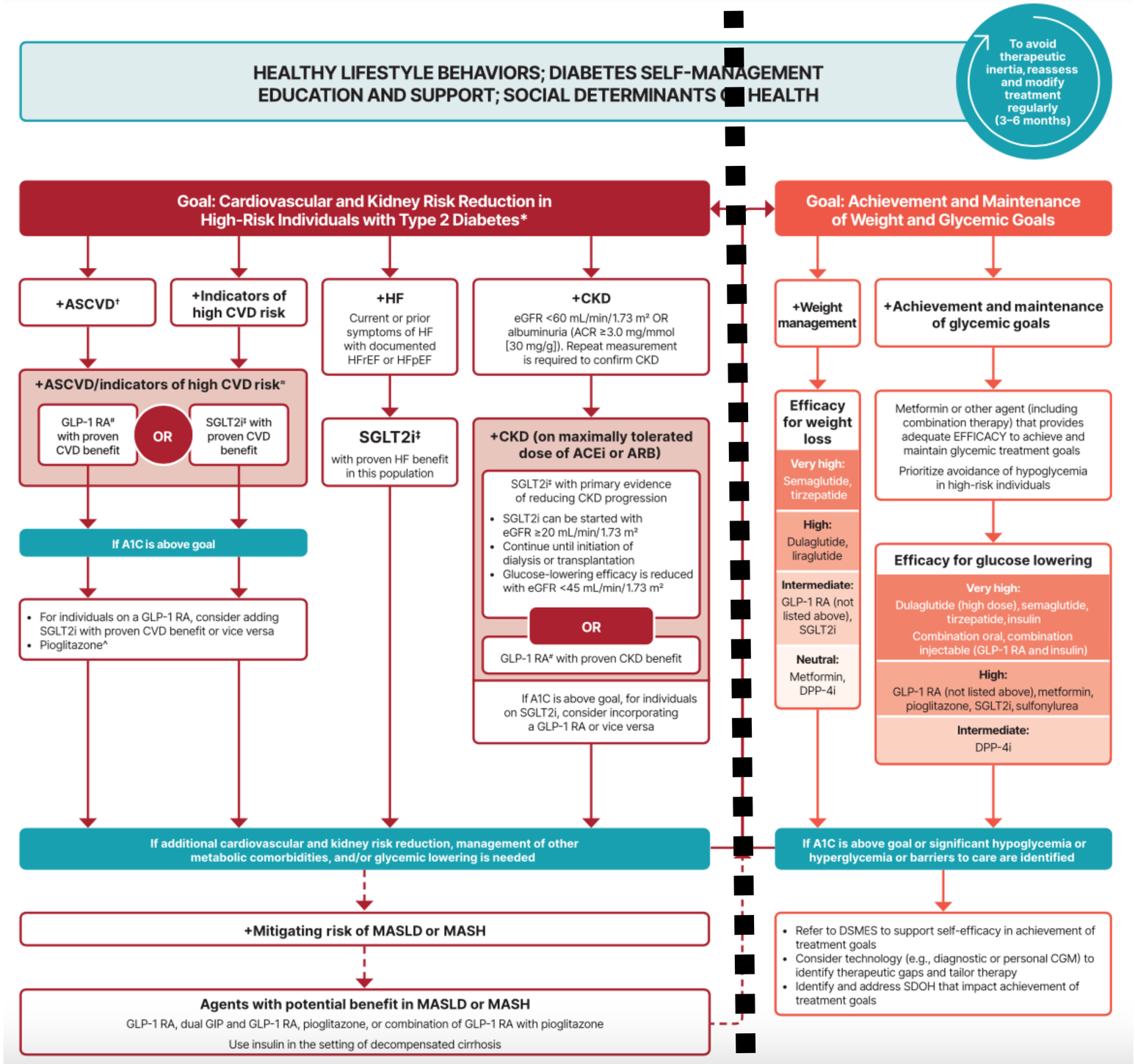
Swiss Med Wkly. 2023;153:40060

Tratamiento DM2: Enfoque en Obesidad



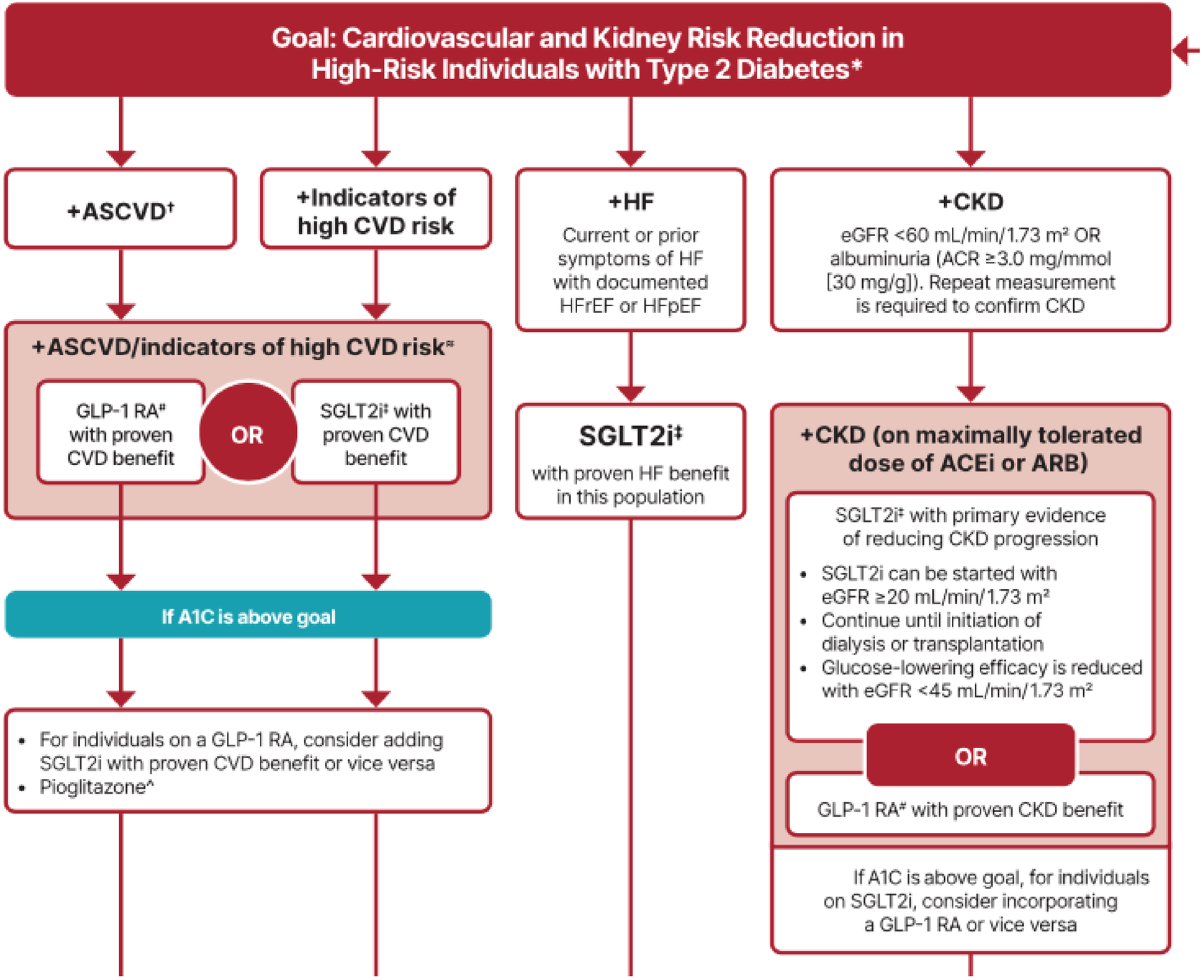
Pedersen, Sue. Canadian Diabetes & Endocrinology Today , Vol. 1, March 2023

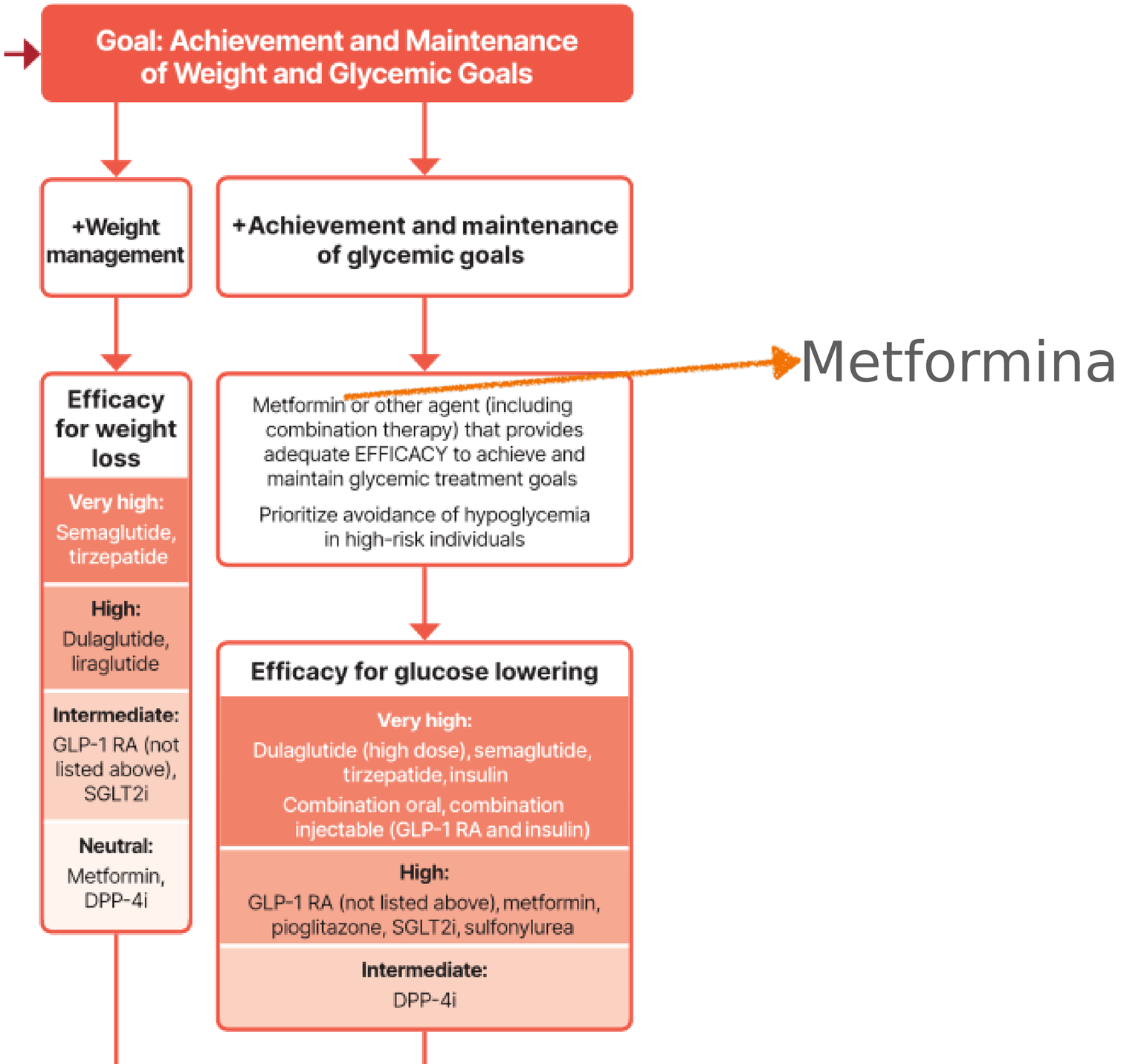
Algoritmo Tratamiento ADA 2025



To avoid therapeutic inertia, reassess and modify treatment regularly (3–6 months)

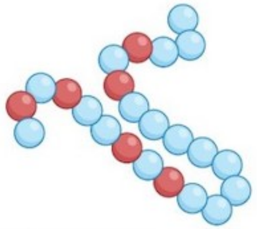
EL TRATAMIENTO SE DEBE ADECUAR SEGÚN EL PERFIL CARDIO - RENO - METABÓLICO DEL PACIENTE


Goal: Cardiovascular and Kidney Risk Reduction in High-Risk Individuals with Type 2 Diabetes*
+ASCVD†
+Indicators of high CVD risk
+HF
Current or prior symptoms of HF with documented HFrEF or HFpEF
+CKD
eGFR <60 mL/min/1.73 m² OR albuminuria (ACR ≥3.0 mg/mmol [30 mg/g]). Repeat measurement is required to confirm CKD
+ASCVD/indicators of high CVD risk‡
GLP-1 RA# with proven CVD benefit
OR
SGLT2i‡ with proven CVD benefit
SGLT2i‡
with proven HF benefit in this population
+CKD (on maximally tolerated dose of ACEi or ARB)
SGLT2i‡ with primary evidence of reducing CKD progression
• SGLT2i can be started with eGFR ≥20 mL/min/1.73 m²
• Continue until initiation of dialysis or transplantation
• Glucose-lowering efficacy is reduced with eGFR <45 mL/min/1.73 m²
OR
GLP-1 RA# with proven CKD benefit
If A1C is above goal
• For individuals on a GLP-1 RA, consider adding SGLT2i with proven CVD benefit or vice versa
• Pioglitazone^
If A1C is above goal, for individuals on SGLT2i, consider incorporating a GLP-1 RA or vice versa


Goal: Achievement and Maintenance of Weight and Glycemic Goals
+Weight management
+Achievement and maintenance of glycemic goals
Efficacy for weight loss
Very high:
Semaglutide, tirzepatide
High:
Dulaglutide, liraglutide
Intermediate:
GLP-1 RA (not listed above), SGLT2i
Neutral:
Metformin, DPP-4i
Metformin or other agent (including combination therapy) that provides adequate EFFICACY to achieve and maintain glycemic treatment goals
Prioritize avoidance of hypoglycemia in high-risk individuals
Efficacy for glucose lowering
Very high:
Dulaglutide (high dose), semaglutide, tirzepatide, insulin
Combination oral, combination injectable (GLP-1 RA and insulin)
High:
GLP-1 RA (not listed above), metformin, pioglitazone, SGLT2i, sulfonylurea
Intermediate:
DPP-4i
Metformina

Nuevos Tratamientos

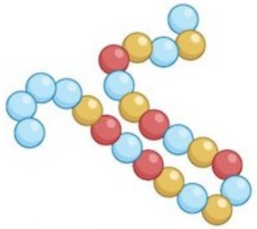
Survodutide



GCGR–GLP-1RA

↓Steatohepatitis
↑Weight loss

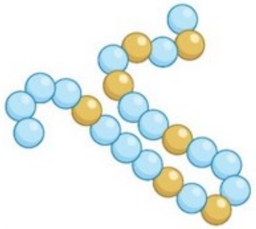
Retatrutide



GCGR–GIPR–GLP-1RA

↓Steatohepatitis
↓Inflammation
↑Weight loss

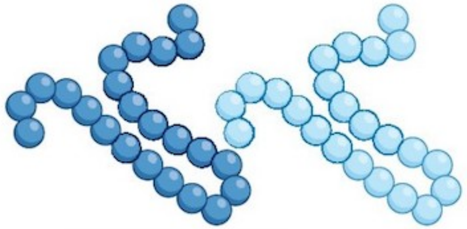
Tirzepatide



GIPR–GLP-1RA

↑Insulin sensitivity
↓Inflammation
↑Weight loss

Cagri-Sema



AMLN–GLP-1RA

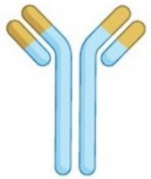
? Tolerability
? Lean mass
↑Weight loss

Orforglipron

GLP-1RA

Oral administration
↓Cost
↑Supply

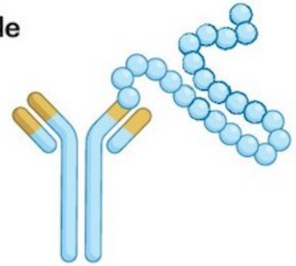
AT-7687



GIPR Ant

↑Insulin sensitivity
↑Weight loss

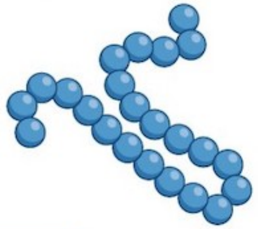
Maritide



GIPR Ant–GLP-1RA

↑Insulin sensitivity
↓Inflammation
↑Weight loss
Less frequent administration

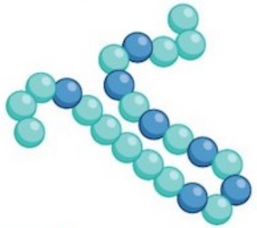
Pramlintide



AMLNRA

↑Tolerability
? Lean mass
↑Weight loss

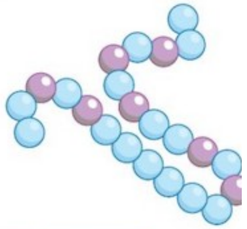
Petrelintide



DACRA

↑Tolerability
? Lean mass
↑Weight loss

Dapiglutide



GLP2R–GLP-1RA

↓Inflammation
↑Weight loss

Últimos mensajes …

- Chile cifras preocupantes de Obesidad y en aumento.
- Importancia reconocimiento precoz.
- SIEMPRE énfasis en estilos de vida.
- En DM2 elegir fármacos con efectos extra-glicémicos adecuados al perfil del paciente (Cardiovascular, Renal, Metabólico).

- **Partir por cuidarse uno para poder cuidar a los demás.**

El movimiento no se prohibe.
El movimiento se adapta.
El movimiento se entrena.
Y solo así, se recupera.

....MUCHAS GRACIAS !!!