LOS COBOS MEDICAL CENTER

compensar | UNIVERSIDAD EL BOSQUE

Salud Osea en PLWH
una mirada más allá de la supresión viral

Castillo

Jorge

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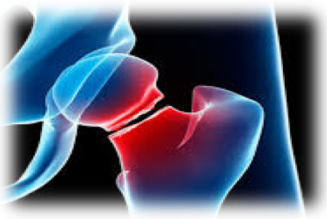
Conflicto de interés

- ❑ Esta es una conferencia patrocinada por laboratorios Richmond
- ❑ Su contenido es producto de información científica no influenciada por el patrocinador
- ❑ He recibido honorarios como speaker de Amgen, Astra Zeneca, BD, Boeringher, Diabetrics, Euroetika, Gilead, Merck Serono, Merck Sharp and Dhome, Lilly, Novo Nordisk, Pharmatech, Pfizer, PTC, Procaps, Roche, Sanofi, Servier, Tecnofarma.

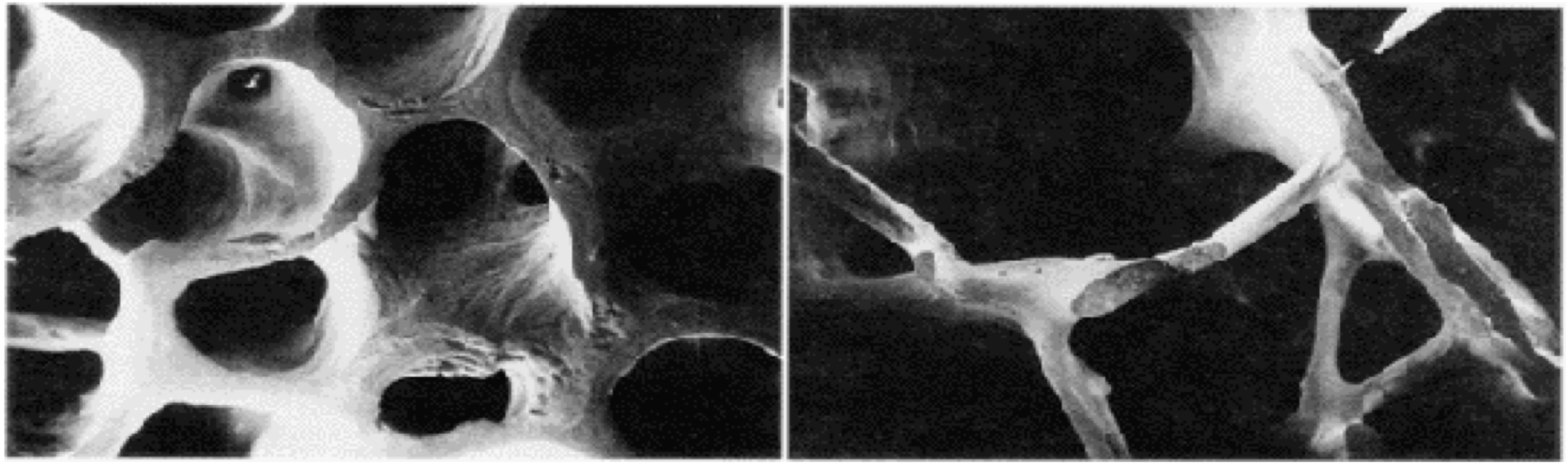
Conferencia disponible en…

www.eldoctorcastillo.com

Definición: Osteoporosis



Enfermedad esquelética que compromete la ***fortaleza – resistencia*** - del hueso y que predispone a la fractura ósea



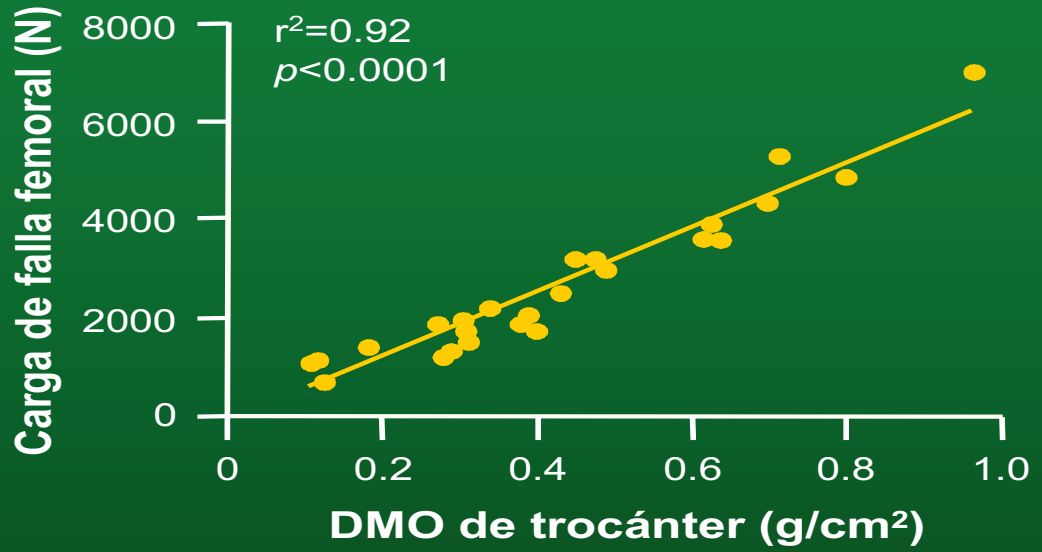
Am. J. Med. 1991;90

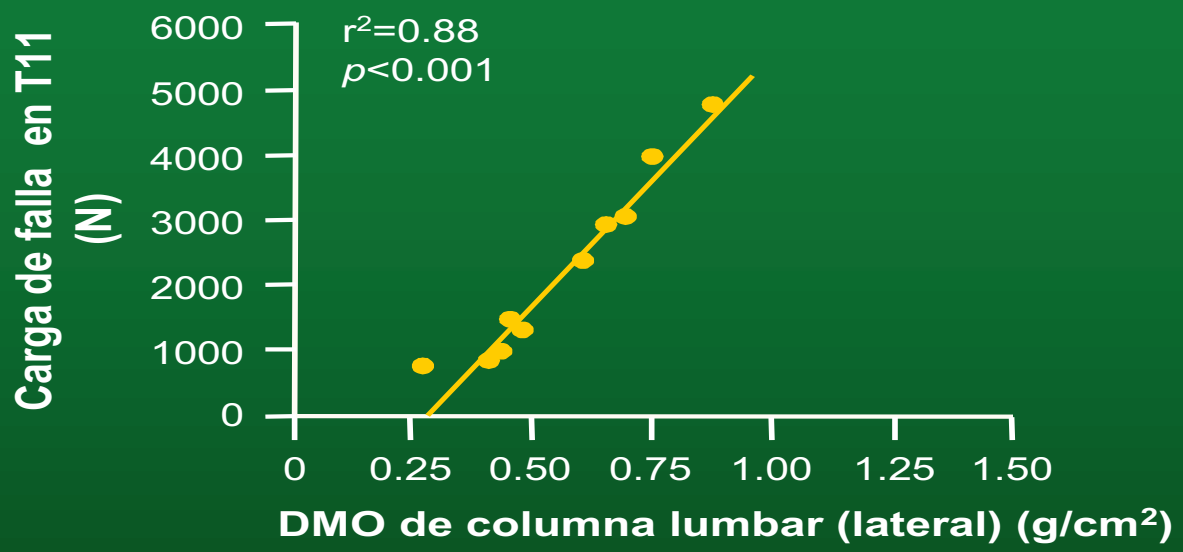
Diagnóstico de la Osteoporosis

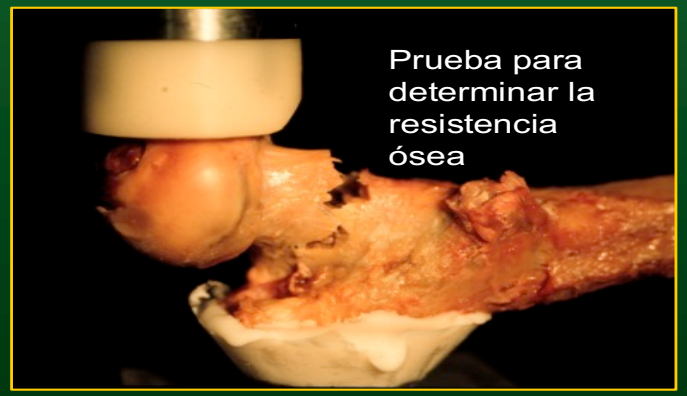
~~**RESISTOMETRO**~~

Dos estudios de laboratorio separados

Los incrementos en la DMO dan como resultado una mayor fortaleza ósea *in vitro*





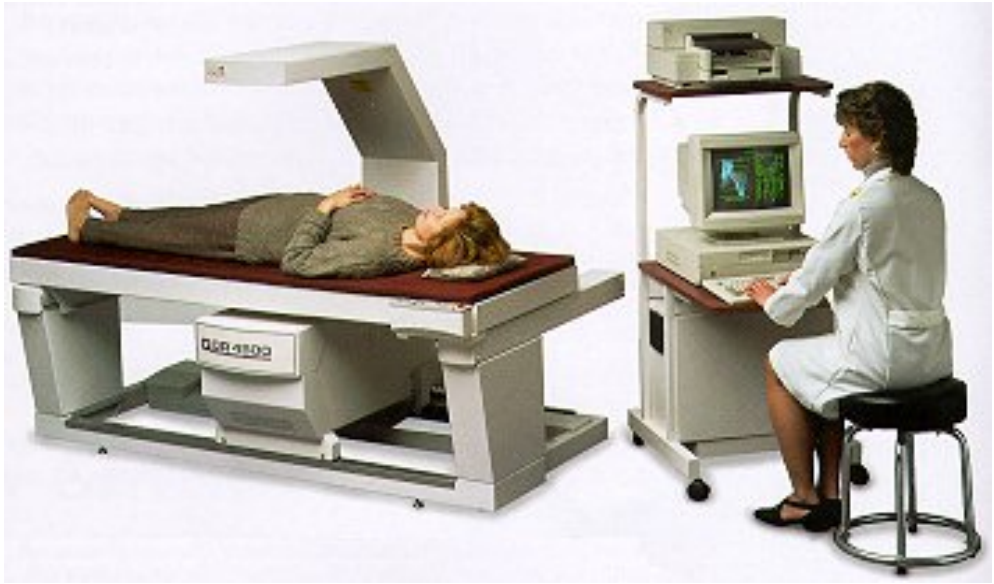


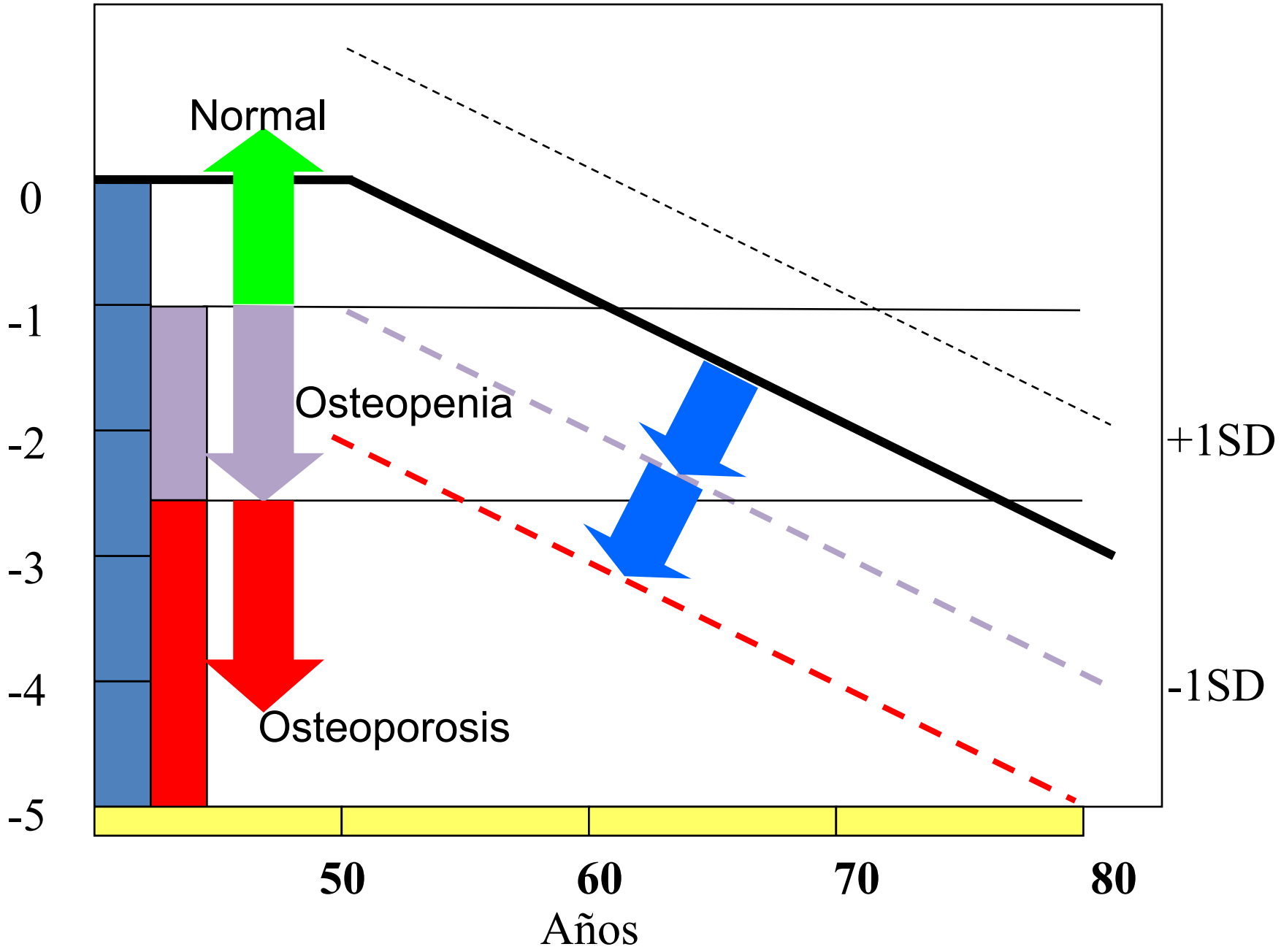
Estudios de laboratorio para determinar la correlación entre la DMO y la fortaleza ósea en muestras cadavéricas humanas

Adaptado de Bouxsein ML y cols. *Bone* 1999;25(1):49–54; Moro M y cols. *Calcif Tissue Int* 1995;56(3):206–209.

T Score (Joven sano)

- Normal > -1
- Osteopenia < -1; > -2.5
- Osteoporosis < -2.5.




Normal
0
-1
-2
-3
-4
-5
Osteopenia
Osteoporosis
+1SD
-1SD
50
60
70
80
Años

Solicitud DMO - OMS

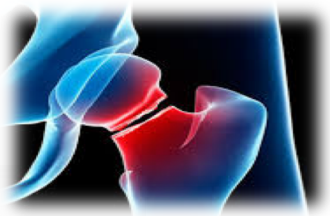
- Mujeres con edad mayor o igual a 65 años.

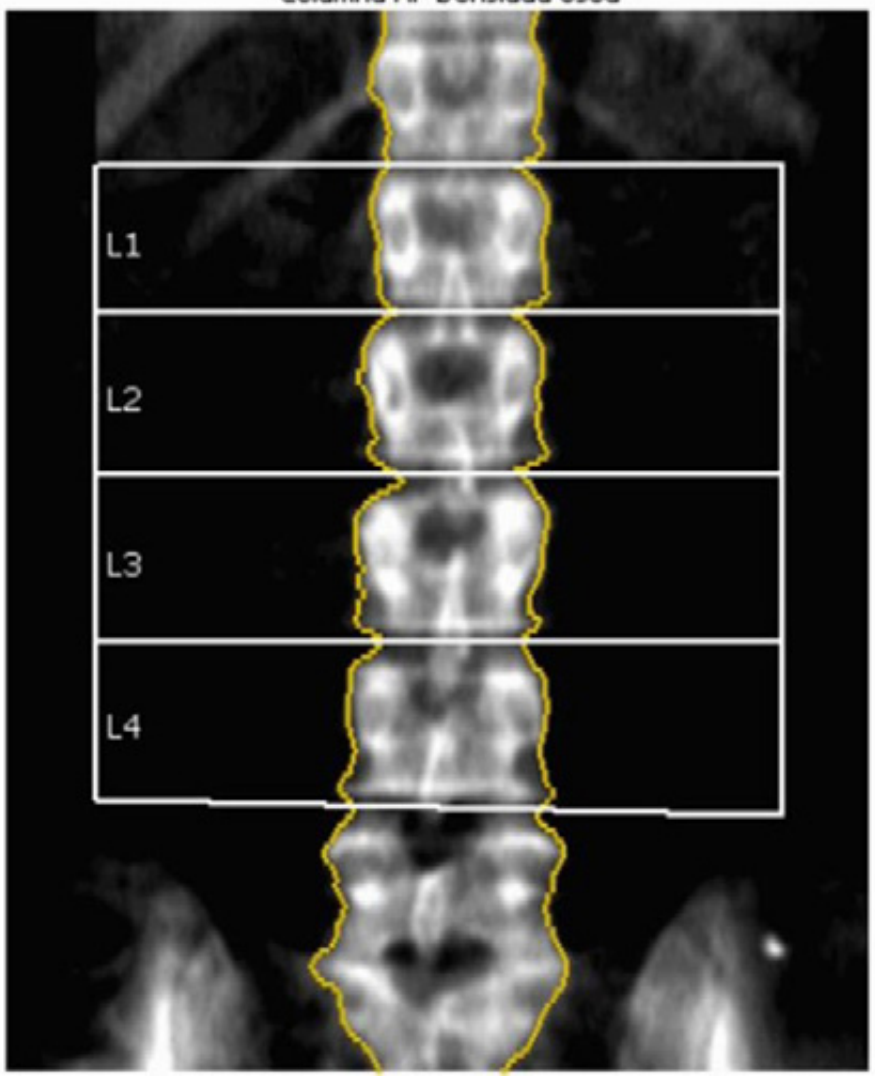
- Mujeres menores de 65 años si tienen un factor de riesgo de baja masa ósea, como:

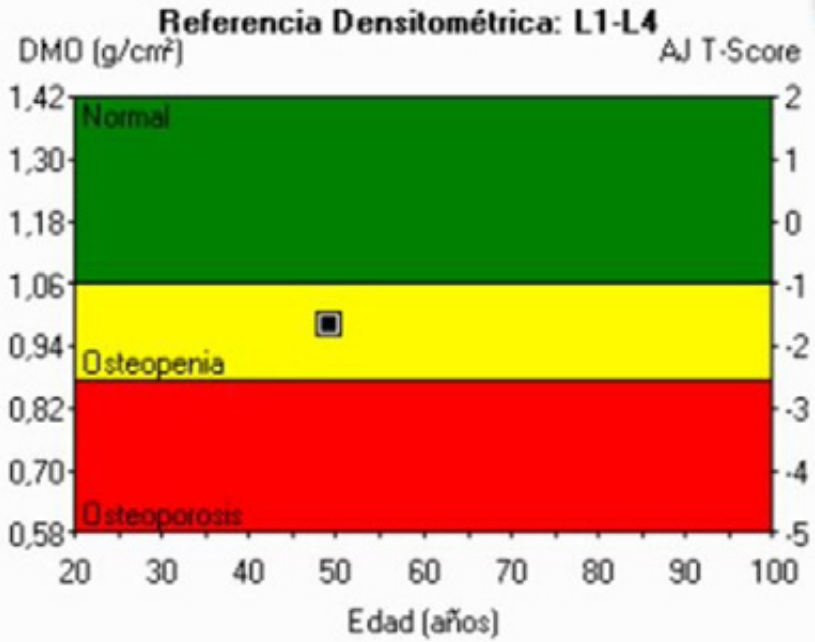
  Bajo peso corporal (IMC < 19 kg/m2).
  Fractura previa por fragilidad.
  Uso de medicamentos de alto riesgo.
  Enfermedad o condición asociada con pérdida de hueso (p.ej., menopausia precoz, **infección por VIH**).

- Cualquier persona que esté en tratamiento con el interés de monitorear el efecto del tratamiento para la osteoporosis.

2293







Región	DMO [1] (g/cm²)	Adulto-Joven [2] (%)	Adulto-Joven [2] T-Score
L1	0,987	87	-1,2
L2	0,930	78	-2,2
L3	1,053	88	-1,2
L4	0,961	80	-2,0
L1-L4	0,983	83	-1,6
L2-L4	0,982	82	-1,8

- 17%

- 17%

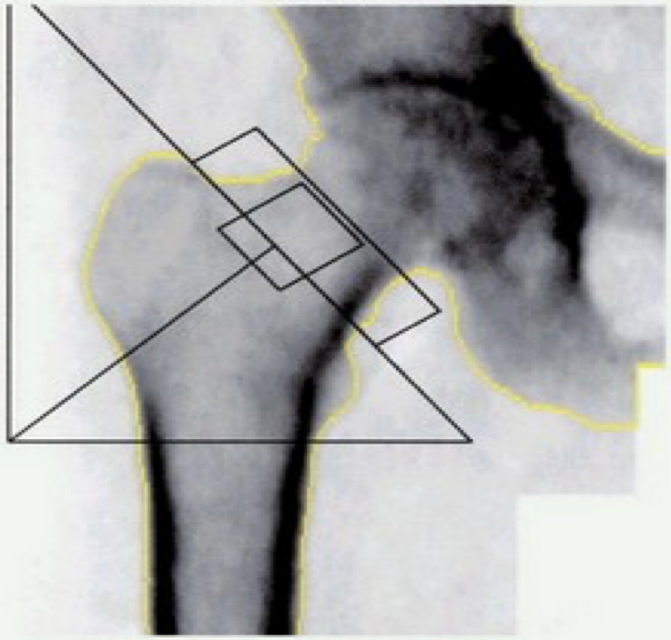
- 10% :

duplica el riesgo de fractura

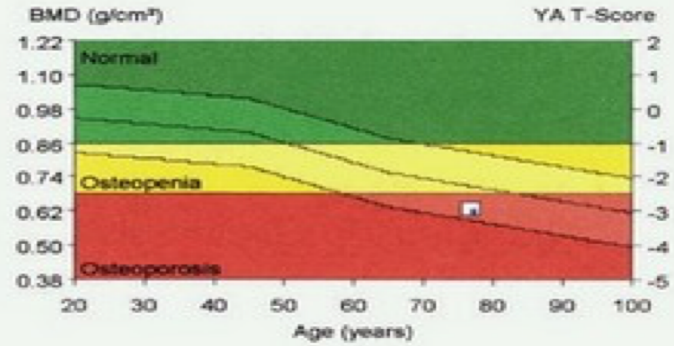
Paciente: n/d
Edad: 84 años
Peso: n/d
Sexo/étnia: Mujer blanca

Measured:	03/26/2002	1:56:09 PM	(5.00)
Analyzed:	03/26/2002	2:01:16 PM	(5.00)

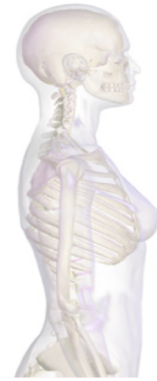
Cuello del fémur derecho

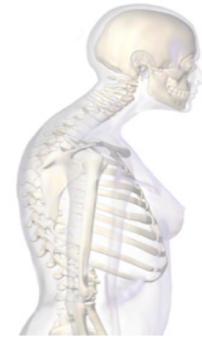


Reference: Neck



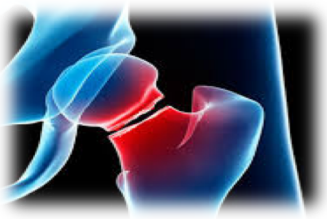
Region	BMD [1] (g/cm²)	Young-Adult [2] T-Score	Age-Matched [3] Z-Score
Neck	0.632	-2.9	-0.6
Wards	0.419	-3.8	-1.0
Troch	0.457	-3.0	-1.4
Shaft	0.787	-	-
Total	0.649	-2.9	-0.8



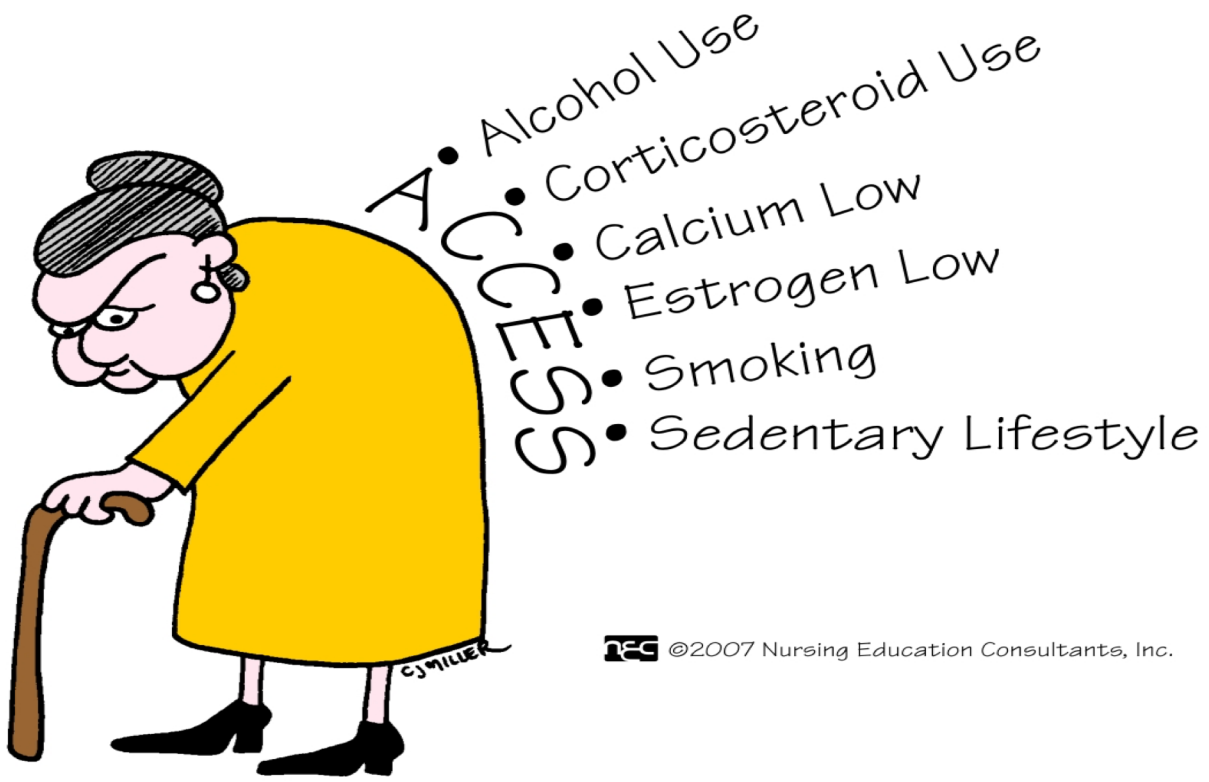


Factores de Riesgo para fracturas por fragilidad

- FACTORES NO CLÍNICOS
  - Densidad Mineral Ósea
  - Ultrasonido Cuantitativo
  - Marcadores Oseos
- FACTORES CLÍNICOS
  - Edad
  - Bajo peso
  - Estado estrogénico
  - Tabaquismo
  - Glucocorticoides
  - Sedentarismo

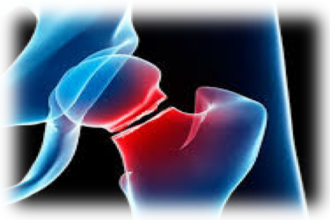


OSTEOPOROSIS RISK FACTORS



"Access" (leads to) Osteoporosis

FRAX



Calculation Tool

Please answer the questions below to calculate the ten year probability of fracture with BMD.

Country: Colombia Name/ID: About the risk factors

Questionnaire:

1. Age (between 40-90 years) or Date of birth
   Age: Date of birth: Y: M: D:
2. Sex Male Female
3. Weight (kg)
4. Height (cm)
5. Previous fracture No Yes
6. Parent fractured hip No Yes
7. Current smoking No Yes
8. Glucocorticoids No Yes
9. Rheumatoid arthritis No Yes
10. Secondary osteoporosis No Yes
11. Alcohol 3 or more units per day No Yes
12. Femoral neck BMD (g/cm²)

Select DXA Clear Calculate

Weight Conversion

Pounds → Kgs Convert

Height Conversion

Inches → Cms Convert

A 10 años probabilidad de fractura en cadera >3%
A 10 años probabilidad de fractura relacionada a osteoporosis >20%
Solo aplica para EEUU

Herramienta de cálculo

Responda a las siguientes preguntas para calcular la probabilidad de fractura en un plazo de diez años con o sin medición de la densidad mineral ósea (DMO).

Continente América Latina

País Colombia

Referencia local Referencia (opcional)

Acerca de los factores de riesgo

Personas con riesgo de fractura evaluado desde el 1 de junio de 2011: 0

Cuestionario

1. Edad (entre 40 y 90 años) 75

2. Sexo Femenino / Masculino

3. Peso kg 46 kg / cm

4. Altura centímetro 162

5. Fractura previa X

6. Fractura de cadera del padre ✓

7. Fumar actualmente X

8. Glucocorticoides X

9. Artritis reumatoide X

10. Osteoporosis secundaria X

11. Alcohol: 3 o más unidades/día X

12. Densidad mineral ósea del cuello femoral Seleccione BMD

Calcular | Claro

Edad : 75 años IMC : 17,5 sin DMO

LA PROBABILIDAD DE FRACTURA EN DIEZ AÑOS

Osteoporosis mayor	14 %
Fractura de cadera	12 %

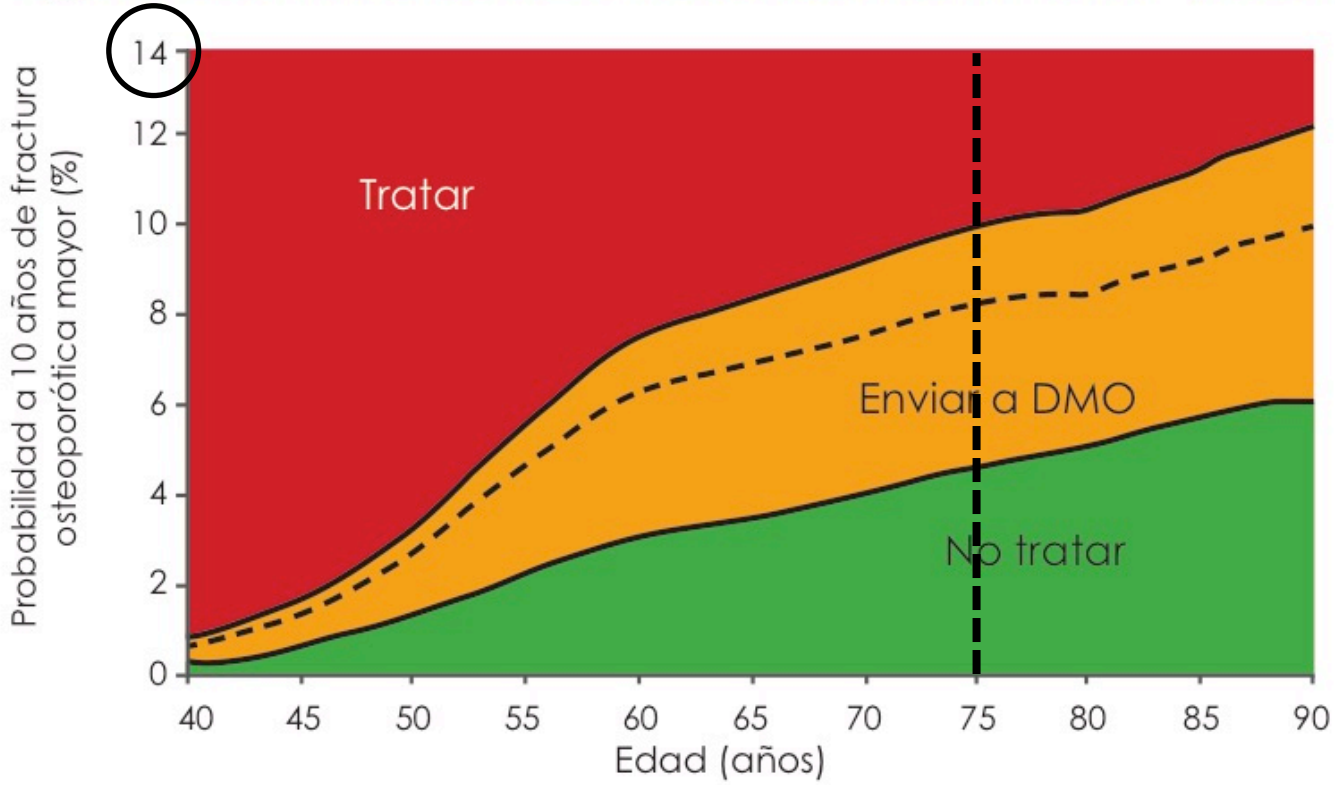
Ajusta tus resultados, prueba FRAXplus ®

¿Qué hace FRAXplus ® ? Haga clic aquí.

II CONSENSO COLOMBIANO
PARA EL MANEJO DE LA OSTEOPOROSIS POSMENOPÁUSICA

ACOMM
Asociación Colombiana de Osteoporosis y Metabolismo Mineral

Figura 1. Umbrales de evaluación con FRAX® para la población colombiana.



Los casos en rojo deben intervenirse sin importar la densitometría.

Si el riesgo cae dentro de la franja naranja, se debe enviar a densitometría para recalcular el riesgo.

Los casos en verde no deben intervenirse ni enviarse a densitometría.

Herramienta de cálculo

Responda a las siguientes preguntas para calcular la probabilidad de fractura en un plazo de diez años con o sin medición de la densidad mineral ósea (DMO).

Continente Seleccione un continente

País Colombia

Referencia local Referencia (opcional)

Acerca de los factores de riesgo

Personas con riesgo de fractura evaluado desde el 1 de junio de 2011: 381.107

Cuestionario

1. Edad (entre 40 y 90 años) 75

2. Sexo Femenino / Masculino

3. Peso kg 80 kg / cm

4. Altura centímetro 162

5. Fractura previa X

6. Fractura de cadera del padre ✓

7. Fumar actualmente X

8. Glucocorticoides X

9. Artritis reumatoide X

10. Osteoporosis secundaria X

11. Alcohol: 3 o más unidades/día X

12. Densidad mineral ósea del cuello femoral Seleccione BMD

Calcular | Claro

Edad : 75 años IMC : 30,5 sin DMO

LA PROBABILIDAD DE FRACTURA EN DIEZ AÑOS

Osteoporosis mayor	7,1 %
Fractura de cadera	4,4 %

Ajusta tus resultados, prueba FRAXplus ®

¿Qué hace FRAXplus ® ? Haga clic aquí.

II CONSENSO COLOMBIANO
PARA EL MANEJO DE LA OSTEOPOROSIS POSMENOPÁUSICA

ACOMM
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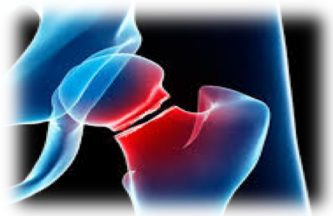
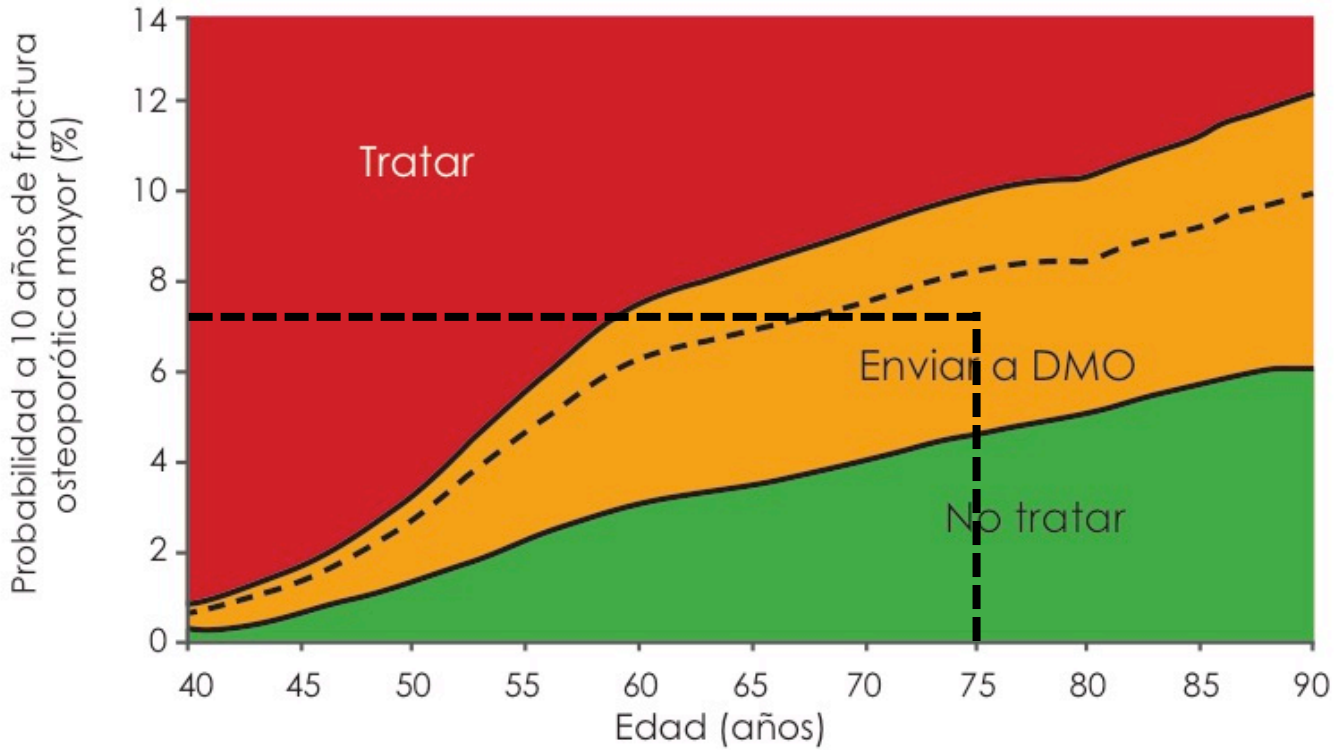


Figura 1. Umbrales de evaluación con FRAX® para la población colombiana.



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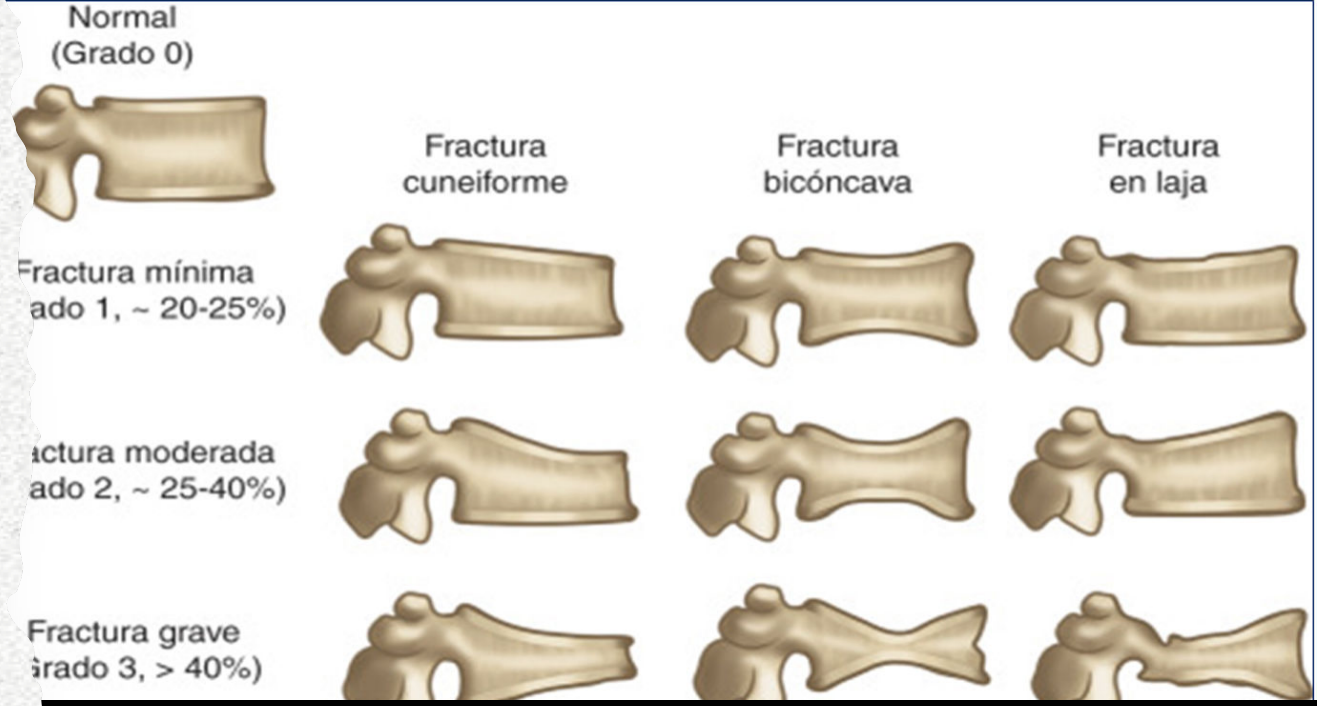
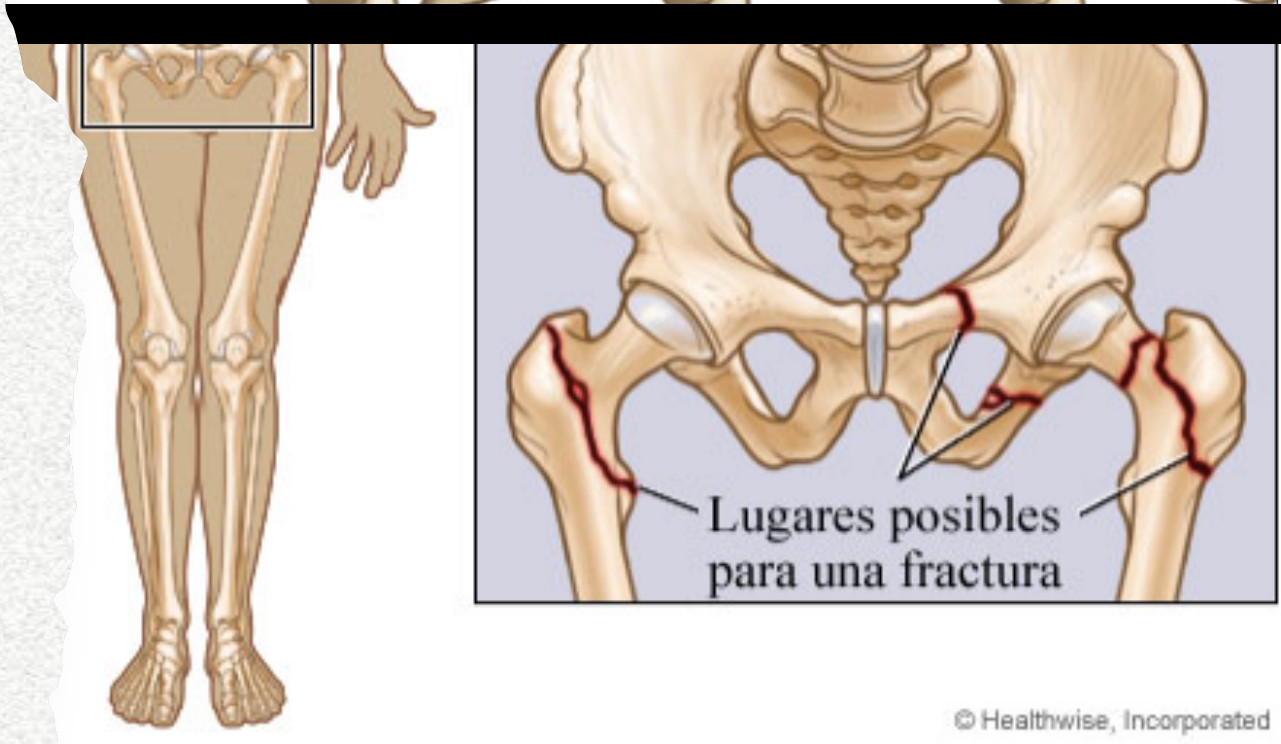
Los casos en verde no deben intervenirse ni enviarse a densitometría.

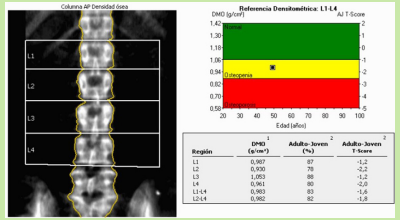
- Fractura Prevalente



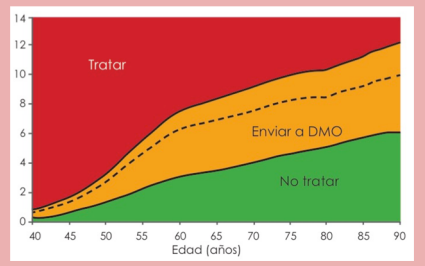


TRATAMIENTNO DE LA OSTEOPOROSIS

TS < -2.5



Umbral de fractura



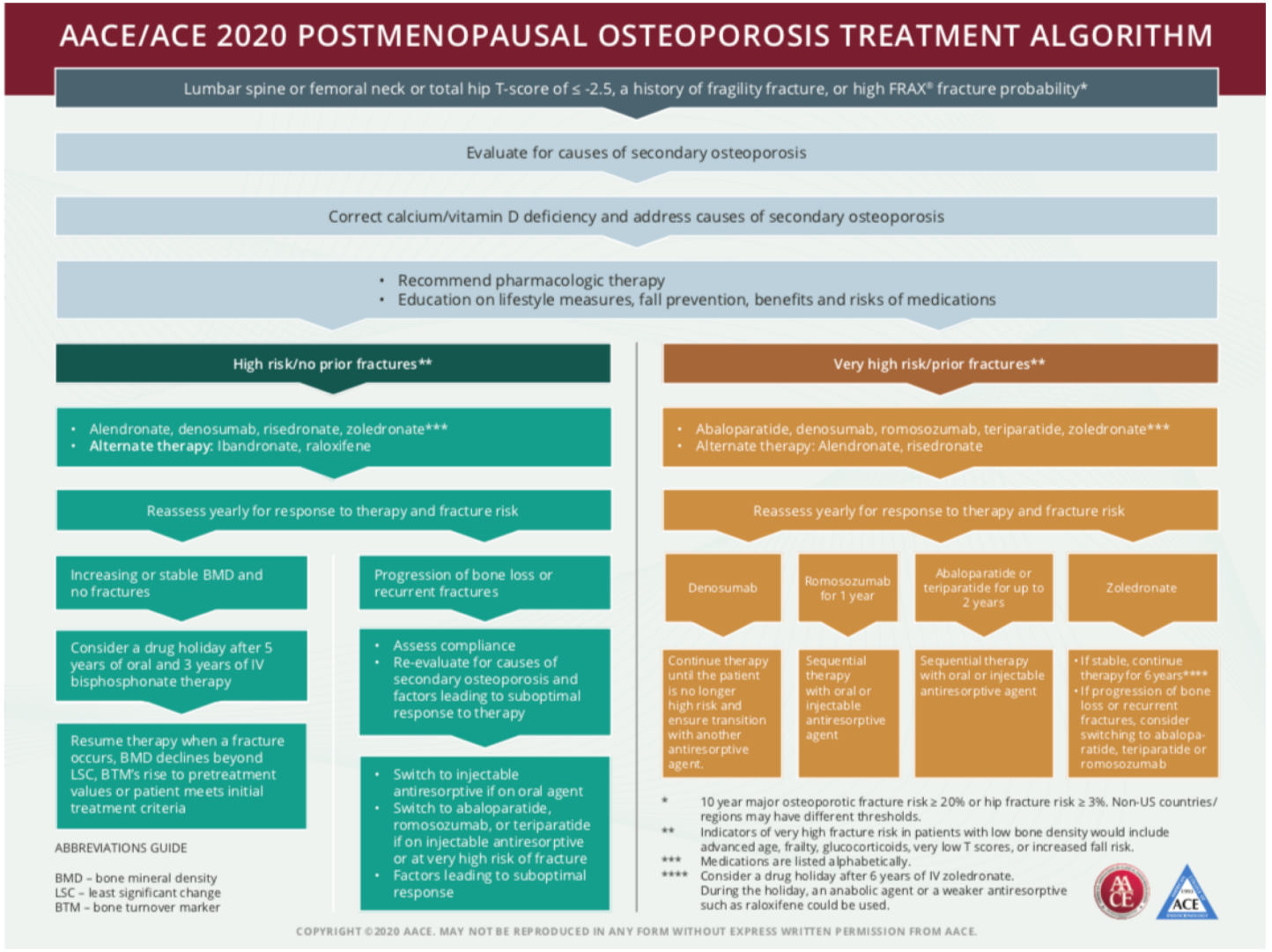
Fractura Prevalente

AACE

Clinical Practice Guidelines

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS/ AMERICAN COLLEGE OF ENDOCRINOLOGY CLINICAL PRACTICE GUIDELINES FOR THE DIAGNOSIS AND TREATMENT OF POSTMENOPAUSAL OSTEOPOROSIS— 2020 UPDATE

Bisfosfonatos
-Alendronato
-Zoledronato
-Ibandronato
Denosumab
Teriparatide
Romosozumab



Riesgo de fractura el resto de su vida

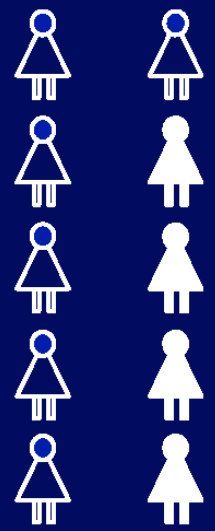
Remaining lifetime probability of fracture (%) in men and women from Sweden at the ages shown. The risk ratio refers to the female/male probabilities [43]

	At 50 years			At 80 years		
Type of fracture	Men	Women	Risk ratio	Men	Women	Risk ratio
Forearm	4.6	20.8	4.5	1.6	8.9	5.6
Hip	10.7	22.9	2.1	9.1	19.3	2.1
Spine [a]	8.3	15.1	1.8	4.7	8.7	1.9
Proximal humerus	4.1	12.9	3.1	2.5	7.7	3.1
Any of these	22.4	46.4	2.1	15.3	31.7	2.1

[a] Clinical spine fracture

Kanis JA, Johnell O, Oden A, Sembo I, Redlund-Johnell I, Dawson A, De Laet C, Jonsson B (2000) Long-term risk of osteoporotic fracture in Malmo. Osteoporos Int 11:669– 674

Estado del Arte

	10-Year Risk of Fracture without Treatment
Proportion	4 in 10
Probability	40%
Part-to-whole Icon Array Graph	

50%

ENDOCRINE PRACTICE Vol 26 (Suppl 1) May 2020 1

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS/ AMERICAN COLLEGE OF ENDOCRINOLOGY CLINICAL PRACTICE GUIDELINES FOR THE DIAGNOSIS AND TREATMENT OF POSTMENOPAUSAL OSTEOPOROSIS— 2020 UPDATE

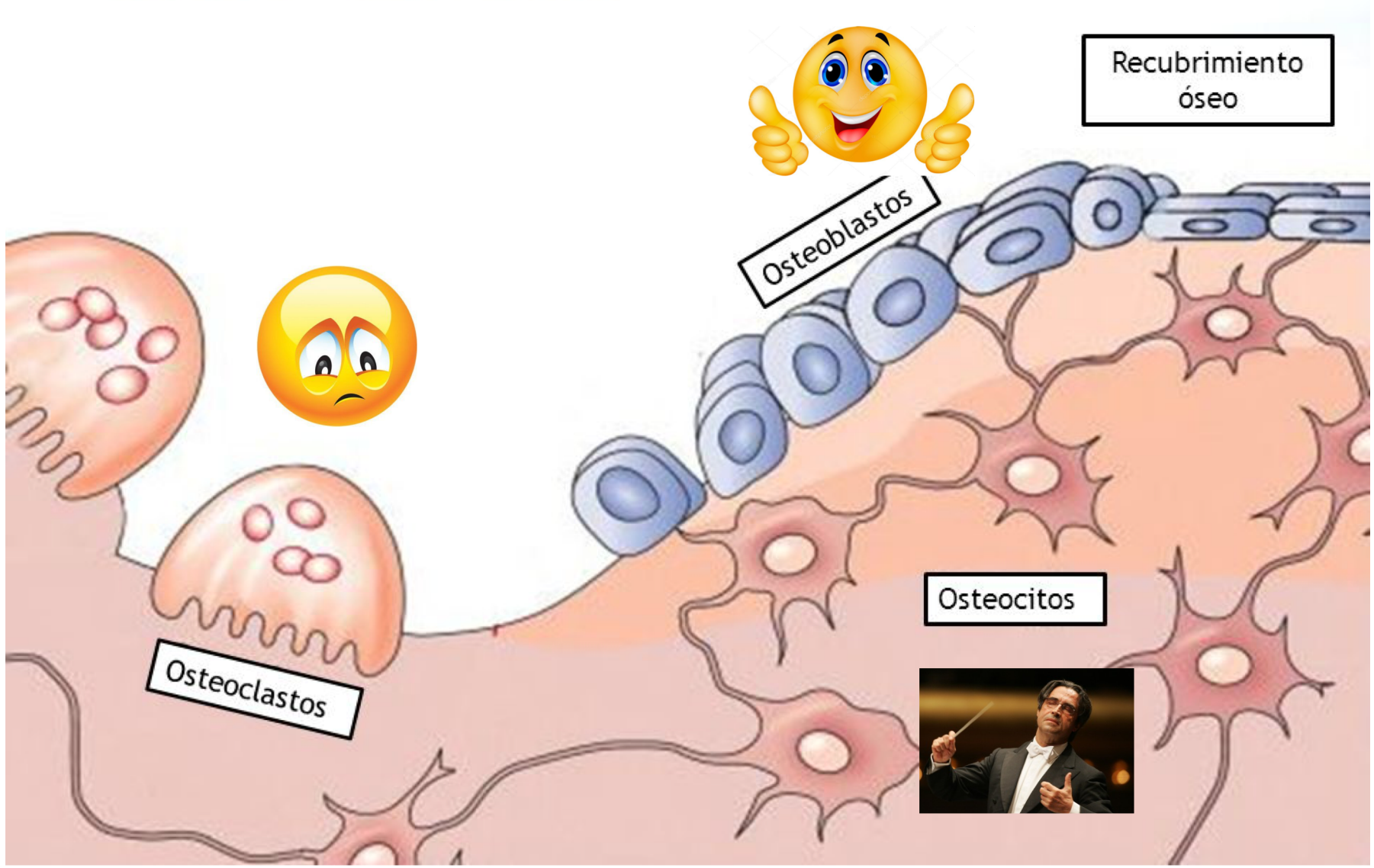
AACE

Table 12
Causes of Secondary Osteoporosis in Adults[a]

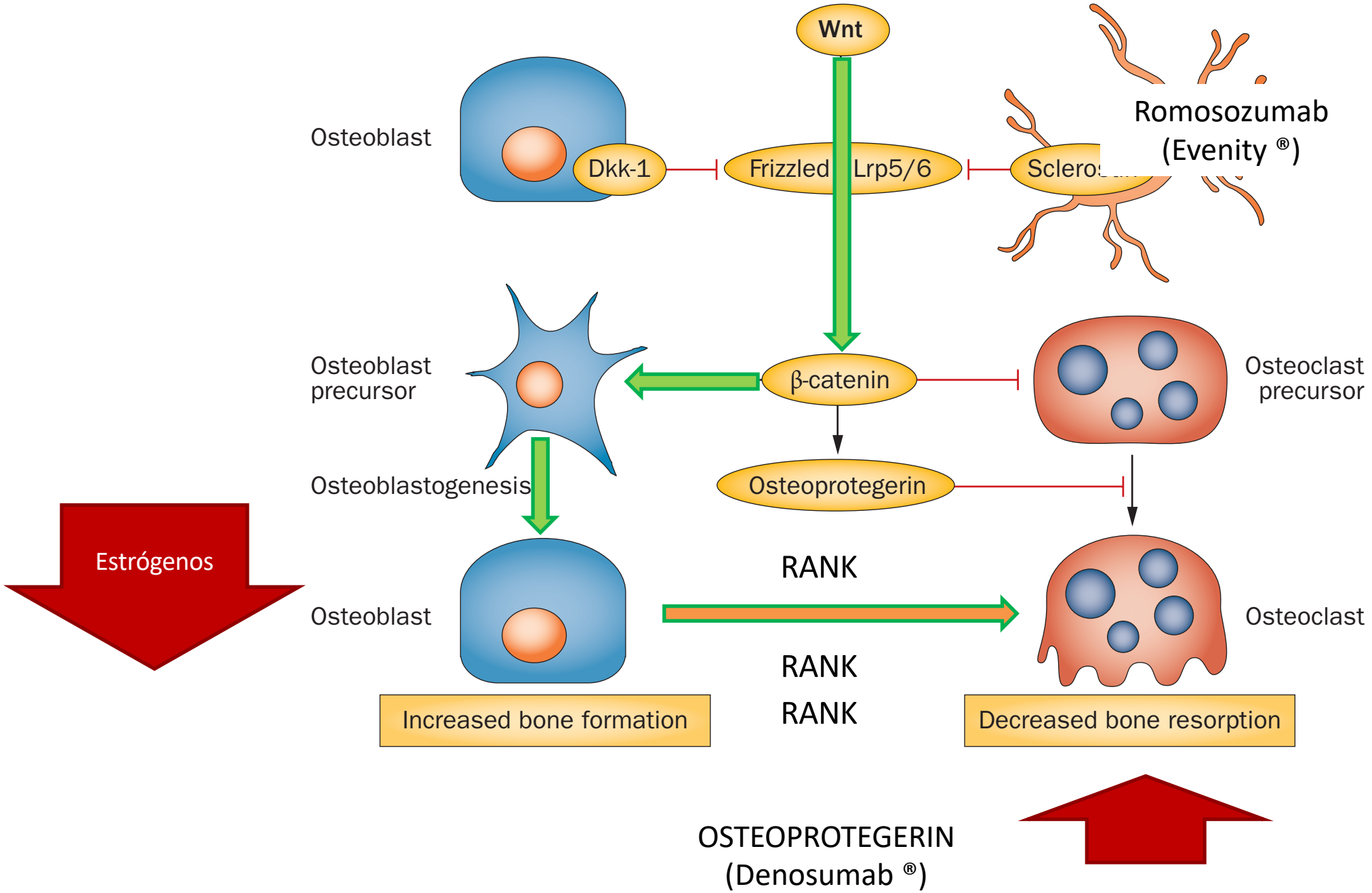
Endocrine or metabolic causes	Nutritional/ GI conditions	Drugs	Disorders of collagen metabolism	Other
Acromegaly Diabetes mellitus Type 1 Type 2 Growth hormone deficiency Hypercortisolism Hyperparathyroidism Hyperthyroidism Hypogonadism Hypophosphatasia Porphyria Pregnancy	Alcoholism Anorexia nervosa Calcium deficiency Chronic liver disease Malabsorption syndromes/ malnutrition (including celiac disease, cystic fibrosis, Crohn disease, and gastric resection or bypass) Total parenteral nutrition Vitamin D deficiency	Anti-epileptic drugs[b] Aromatase inhibitors Chemotherapy/ immunosuppressants Medroxyprogesterone acetate Glucocorticoids Gonadotropin-releasing hormone agents Heparin Lithium Proton pump inhibitors Selective serotonin- reuptake inhibitors SGLT2-inhibitors Thiazolidinediones Thyroid hormone (in supraphysiologic doses)	Ehlers-Danlos syndrome Homocystinuria due to cystathionine deficiency Marfan syndrome Osteogenesis imperfecta	AIDS/HIV Ankylosing spondylitis Chronic obstructive pulmonary disease Gaucher disease Hemophilia Hypercalciuria Immobilization Major depression Myeloma and some cancers Organ transplantation Renal insufficiency/ failure Renal tubular acidosis Rheumatoid arthritis Systemic mastocytosis Thalassemia

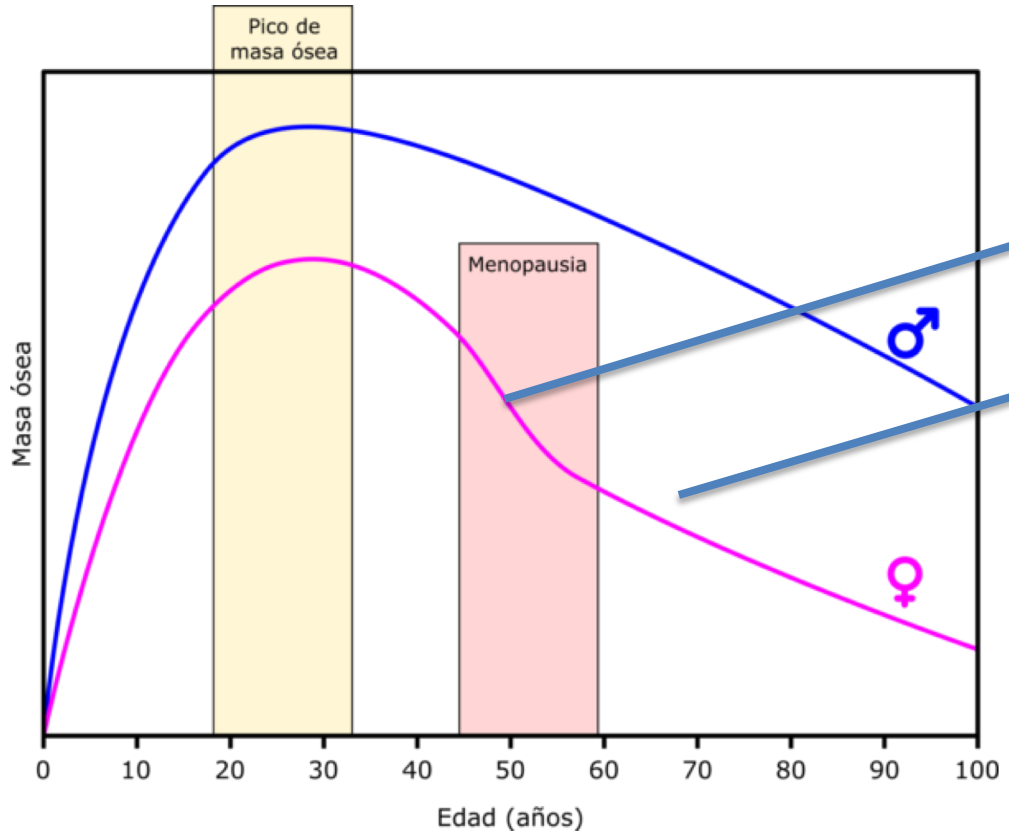
AIDS = acquired immunodeficiency syndrome; GI = gastrointestinal; HIV = human immunodeficiency virus; SGLT2 = sodium-glucose cotransporter 2.
[a]Not meant to be a complete list.
[b]Phenobarbital, phenytoin, primidone, valproate, and carbamazepine have been associated with low bone mass.

Células del hueso



Nat. Rev. Endocrinol. 9, 575–583 (2013)

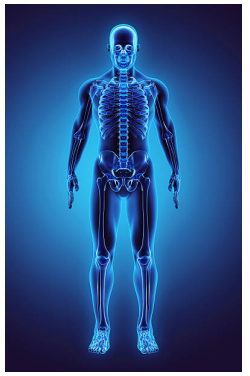


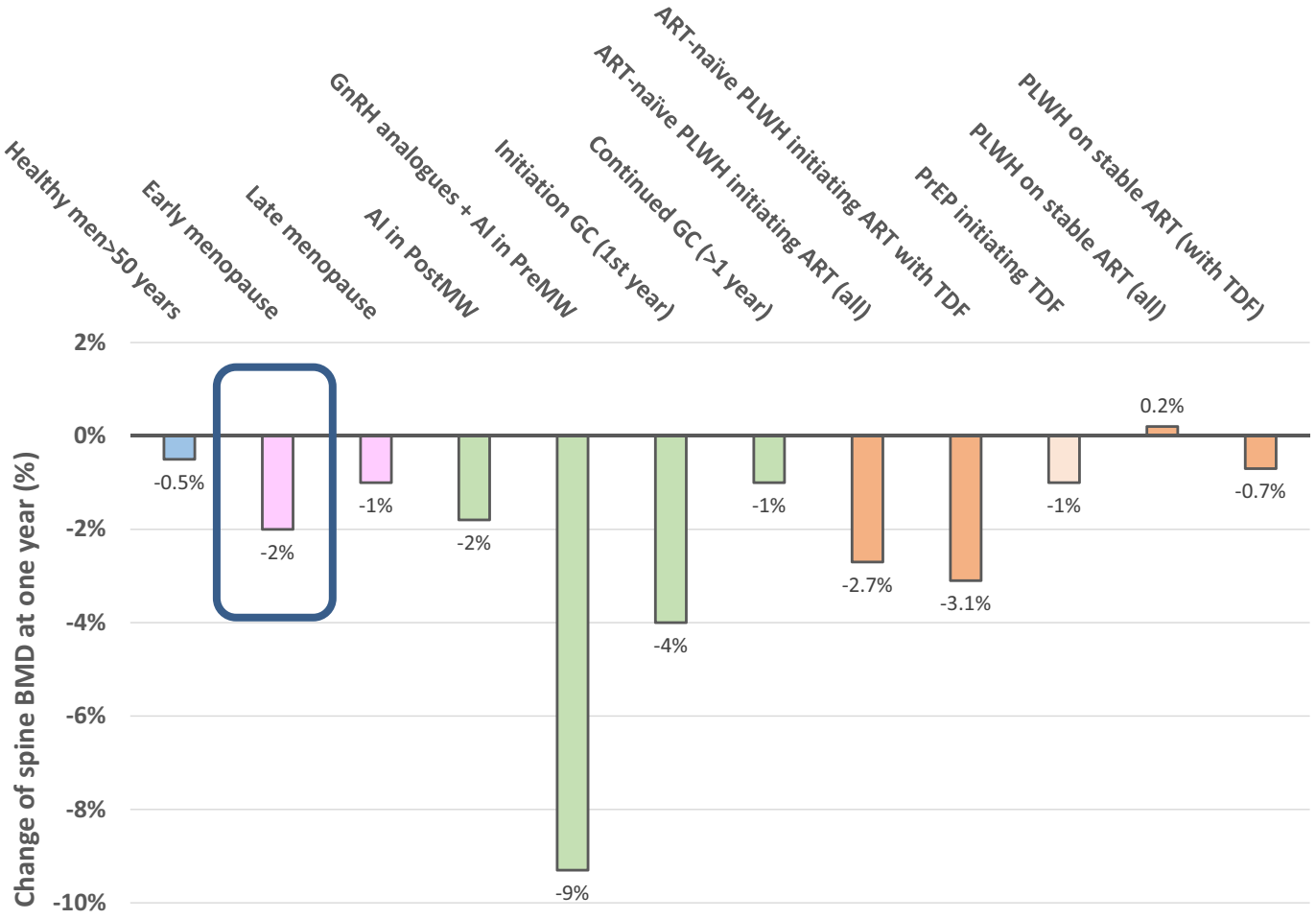


Primeros 5 años: 2 – 3% x año

Pos 5 años: 0.5 – 1% x año

Desordenes Óseos





Calcified Tissue International (2022) 110:624–640

Osteoporosis International
https://doi.org/10.1007/s00198-020-05350-y

REVIEW

People living with HIV and fracture risk

M.O. Premaor[1] · J.E. Compston[2]

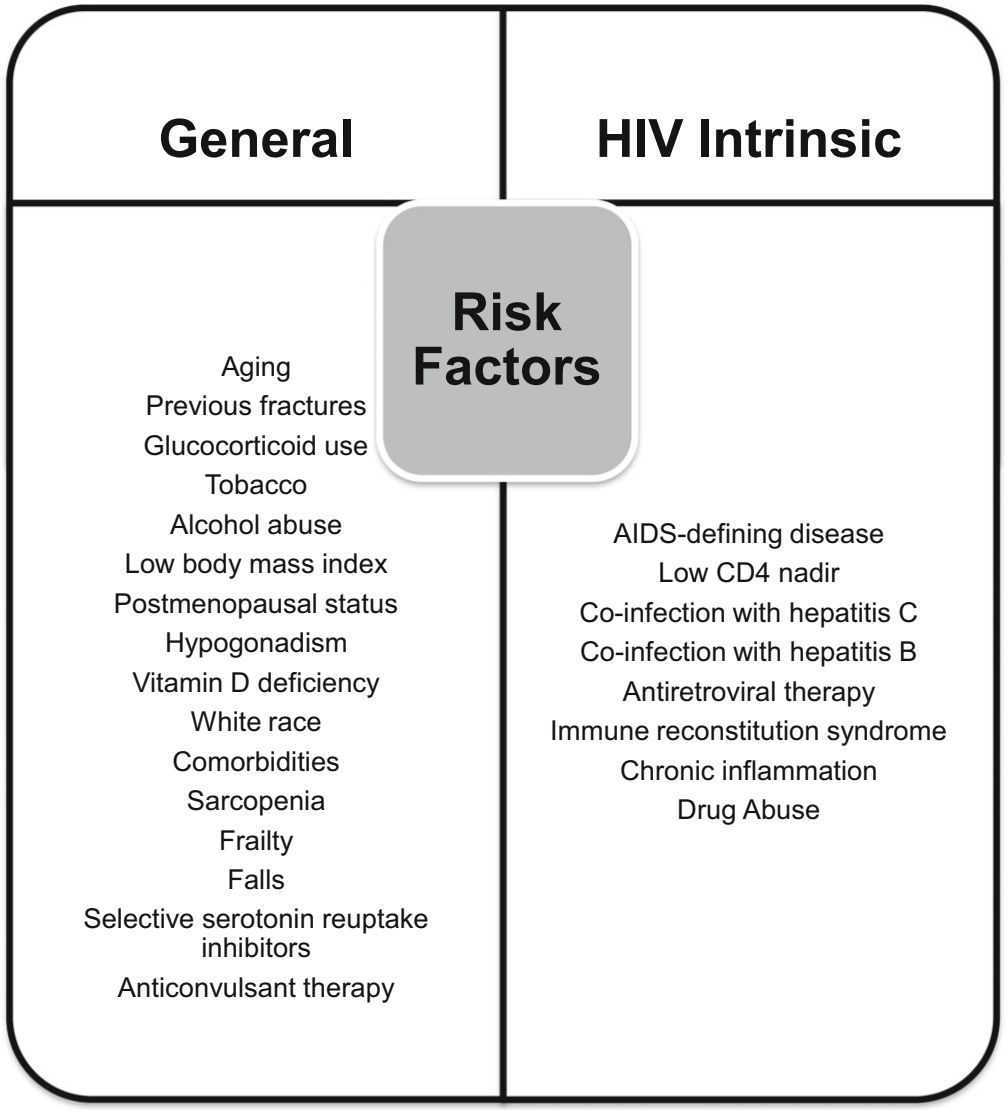


Fig. 1 Factors associated with decreased BMD and/or increased fracture risk in PLHIV

Osteoporosis International, publicado online mar 2020

Osteoporosis International
https://doi.org/10.1007/s00198-020-05350-y

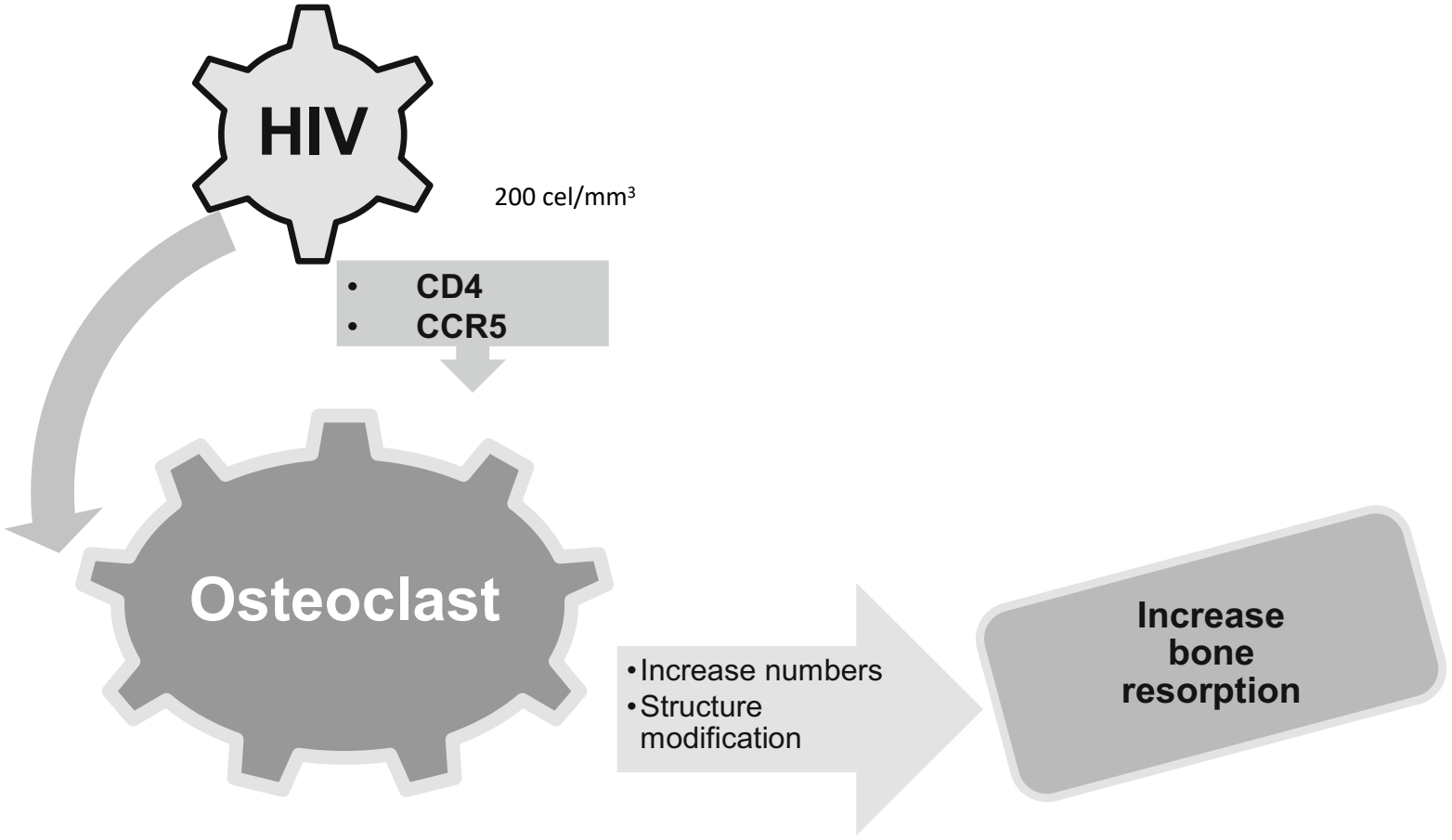
REVIEW

People living with HIV and fracture risk

M.O. Premaor[1] · J.E. Compston[2]

58 – 117%

Fracturas



Osteoporosis International, publicado online mar 2020

EnM
ENDOCRINOLOGY AND METABOLISM

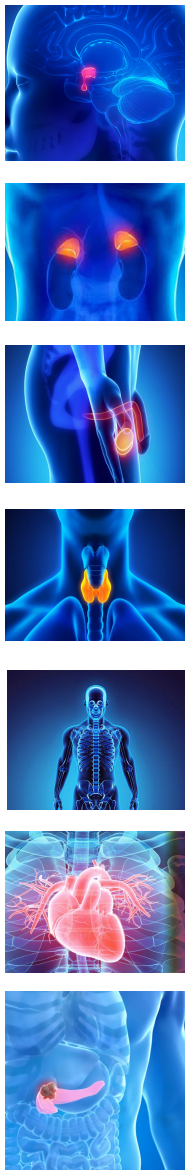
Review Article

Endocrinol Metab 2019;34:95-105
https://doi.org/10.3803/EnM.2019.34.2.95
pISSN 2093-596X · eISSN 2093-5978

Human Immunodeficiency Virus Infection and the Endocrine System

Dana Zaid[1], Yona Greenman[1,2]

- Función Hipofisiaria
- Función Adrenal
- Función Gonadal
- Función Tiroidea
- Desordenes Óseos
- Cambios Metabólicos



Endocrinol Metab 2019;34:95-105

Desordenes Óseos en PLWH

- Activación de T cell, CD4 bajo, VHB-C

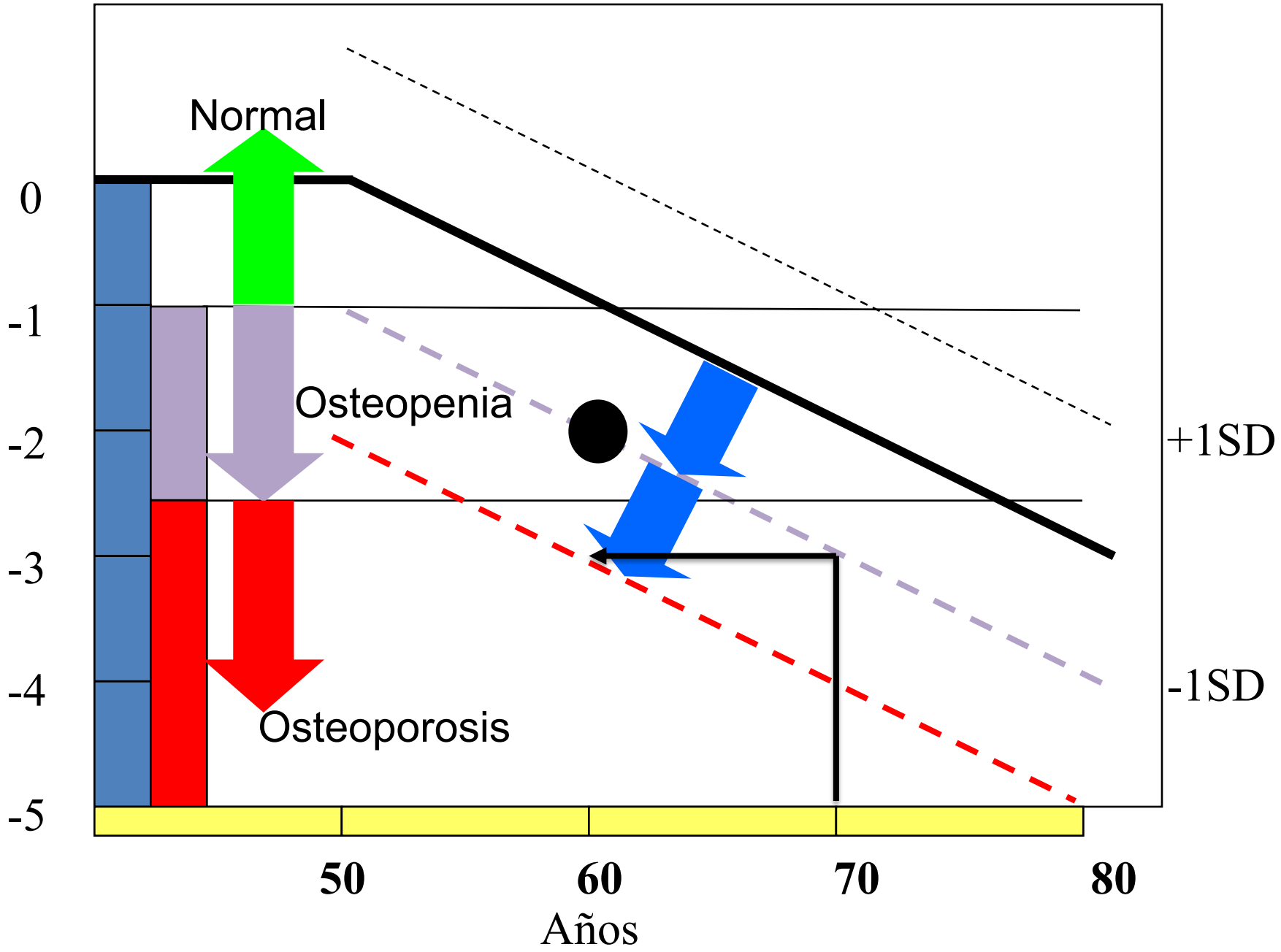
  T cell activa TNF, IL6, **RANK-L**
- Disminución de la osteoprotegerina
- Tag y Nef reducen células mesenquimales
- Hipogonadismo
- Lipoatrofia
- DMO y 25 OHVD mandatoria > 50 años
- TDF disminuye DMO entre 2-6%

Endocrinol Metab 2019;34:95-105

Desordenes Óseos en PLWH

- DMO un paciente viviendo con HIV es equivalente a un paciente **10 años mayor**

Calcified Tissue International (2022) 110:624–640


Normal
0
-1
-2
-3
-4
-5
Osteopenia
Osteoporosis
+1SD
-1SD
50
60
70
80
Años

Desordenes Óseos en PLWH

- DMO un paciente viviendo con HIV es equivalente a un paciente **10 años mayor**
- Z Score es -0.36 DS en columna; Z Score es -0.31 DS en cuello femoral
- Durante la infección por VIH no tratada, la DMO disminuye debido a la mala salud, la pérdida de peso y los efectos directos del virus.
- La mayor disminución de la DMO se observa después de iniciar el TDF, por un período limitado de 1 a 2 años

Calcified Tissue International (2022) 110:624–640

Desordenes Óseos en PLWH

- Los datos del estudio START demostraron claramente que la pérdida ósea durante el inicio **del TAR es mucho mayor que la que resulta de la infección por VIH sola**
- La magnitud de la pérdida ósea supera la observada después de la **menopausia**, o se acerca a el tratamiento con **glucocorticoides** o inhibidores de la aromatasa, solo dentro de 1 a 2 años después del inicio del TAR
- Con TAR a largo plazo y supresión de la actividad viral, la DMO puede aumentar y luego estabilizarse

Calcified Tissue International (2022) 110:624–640

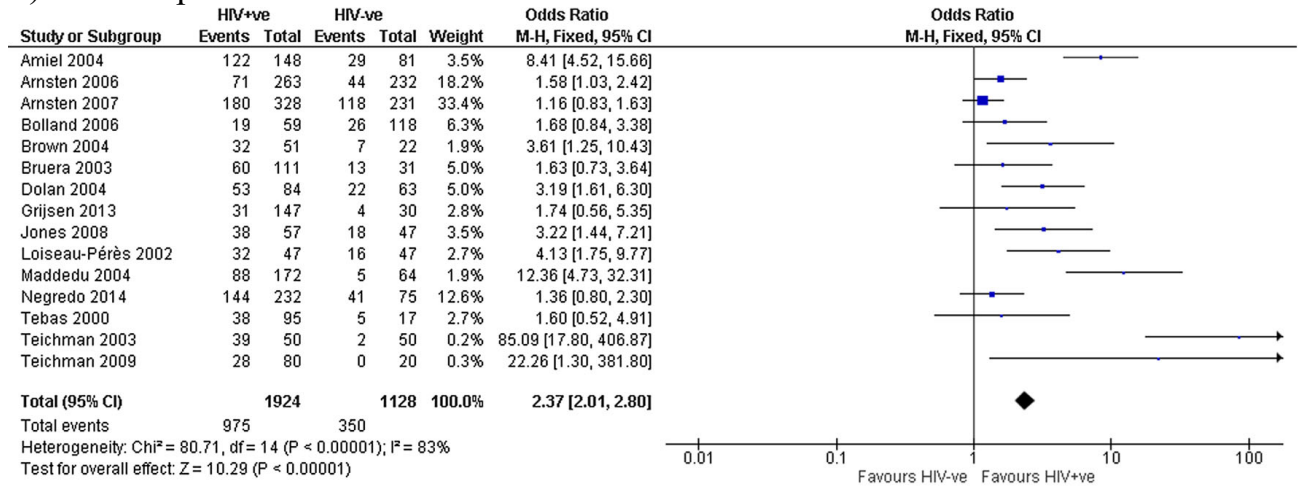
Osteoporos Int (2018) 29:595–613
https://doi.org/10.1007/s00198-017-4305-8

ORIGINAL ARTICLE

Reduced bone mineral density in human immunodeficiency virus-infected individuals: a meta-analysis of its prevalence and risk factors

S. S. L. Goh[1] · P. S. M. Lai[1] · A. T. B. Tan[2] · S. Ponnampalavanar[3]

a) lumbar spine



b) hip

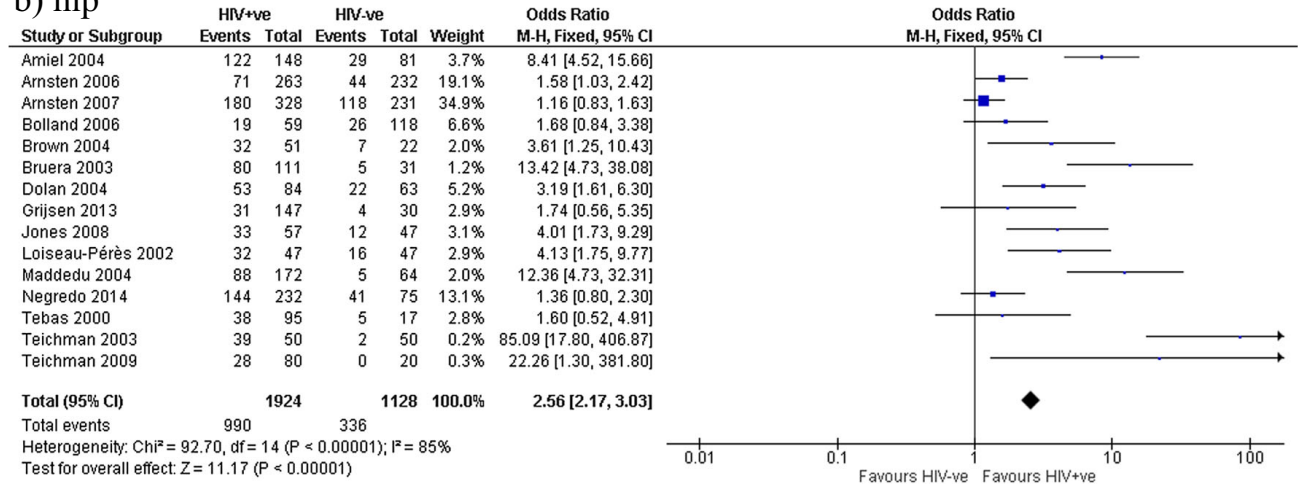


Fig. 2 Odds ratio of osteopenia/osteoporosis in HIV-infected versus HIV-uninfected individuals at **a** lumbar spine and **b** hip

MASA OSEA EN PLWH

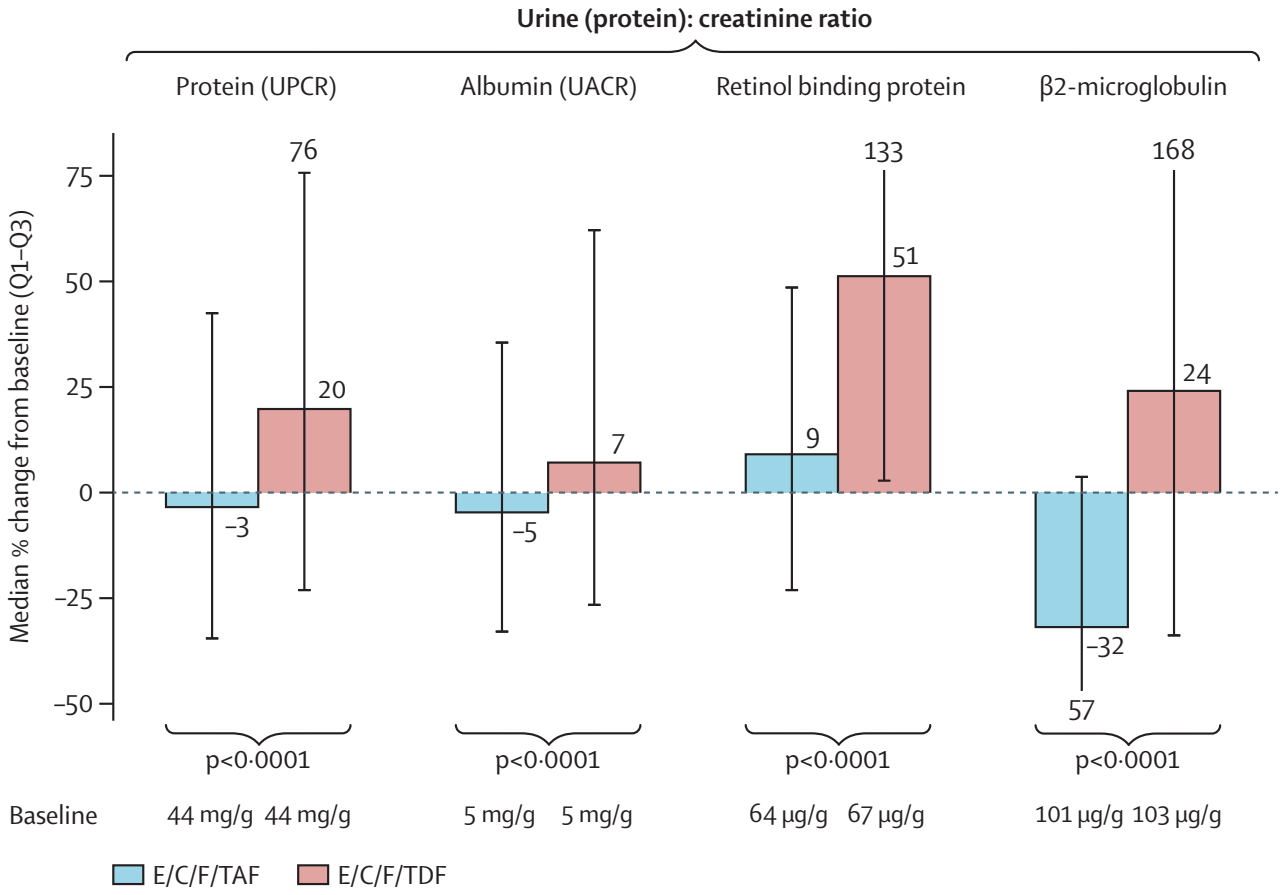
Prevalencias de osteopenia/osteoporosis 2-3 veces superiores y riesgo de fracturas aumentado hasta 4-5 veces, representando un problema de salud pública creciente a nivel mundial.

- **Columna lumbar:** OR 2.4 (IC 95% 2.0-2.8) en pacientes VIH-positivos vs controles
- **Cadera:** OR 2.6 (IC 95% 2.2-3.0) en pacientes VIH-positivos vs controles

China: Un estudio transversal con 1,143 pacientes mostró: [2]

- En pacientes **sin TAR:** 19.2% tenían baja DMO (1.0% osteoporosis, 18.3% osteopenia)
- En pacientes **con TAR:** 32.2% tenían baja DMO (2.4% osteoporosis, 29.8% osteopenia)

Tenofovir alafenamide versus tenofovir disoproxil fumarate, coformulated with elvitegravir, cobicistat, and emtricitabine, for initial treatment of HIV-1 infection: two randomised, double-blind, phase 3, non-inferiority trials



Tenofovir alafenamide versus tenofovir disoproxil fumarate, coformulated with elvitegravir, cobicistat, and emtricitabine, for initial treatment of HIV-1 infection: two randomised, double-blind, phase 3, non-inferiority trials

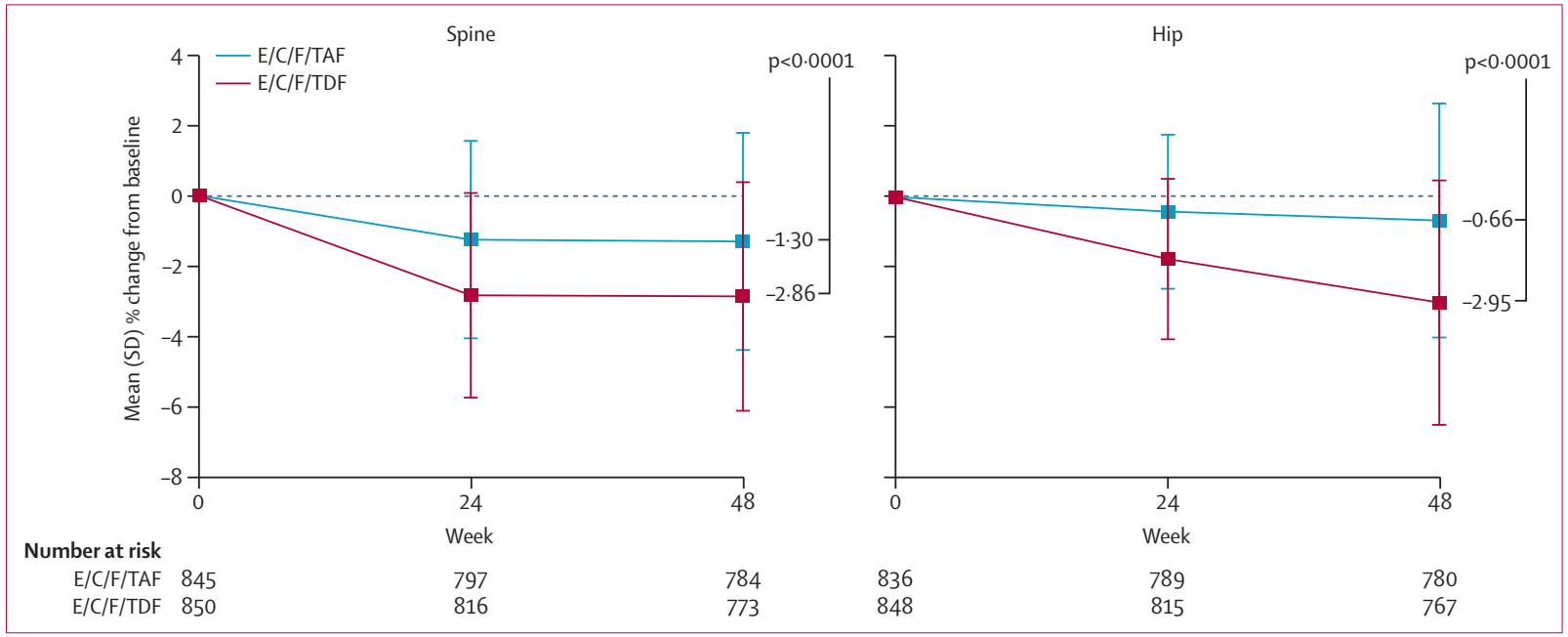
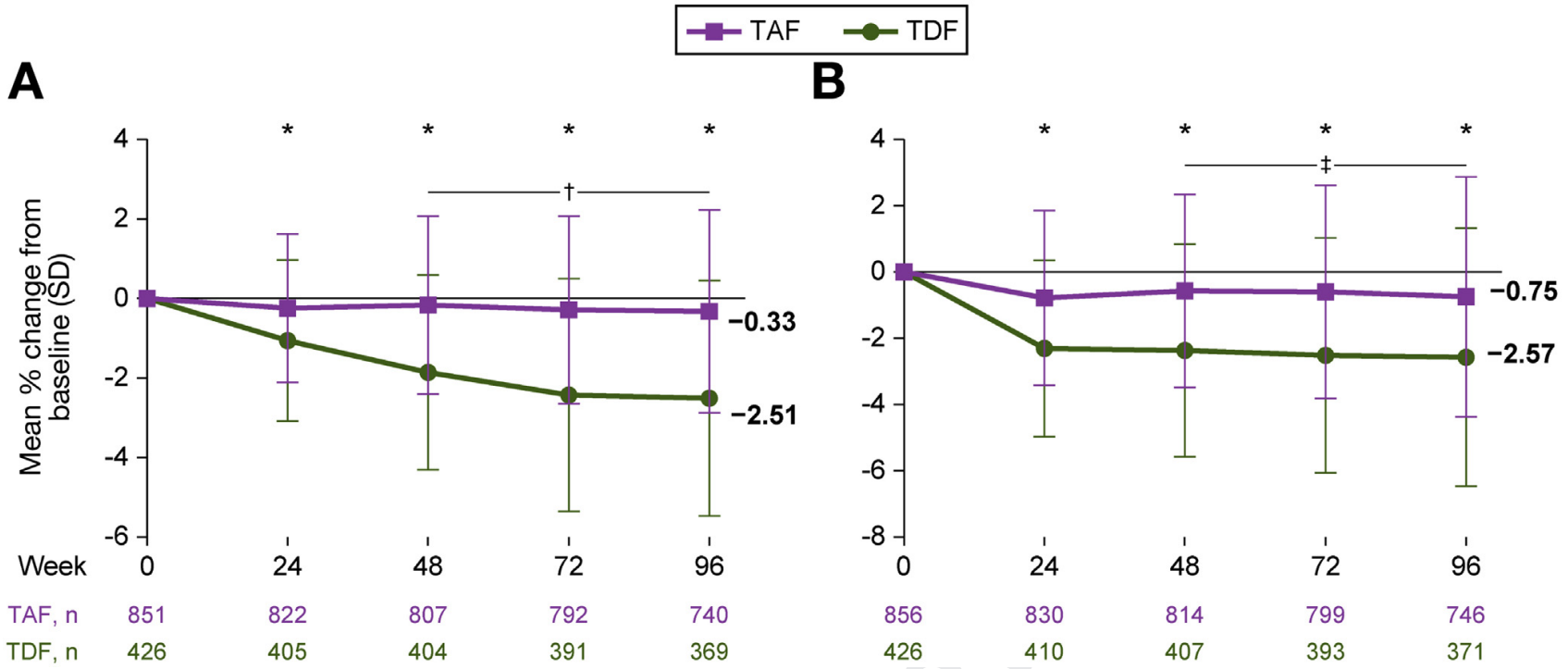


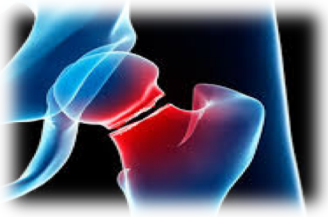
Figure 4: **Changes in spine and hip bone mineral density through week 48**
E/C/F/TAF=elvitegravir, cobicistat, emtricitabine, tenofovir alafenamide. E/C/F/TDF=elvitegravir, cobicistat, emtricitabine, tenofovir disoproxil fumarate.

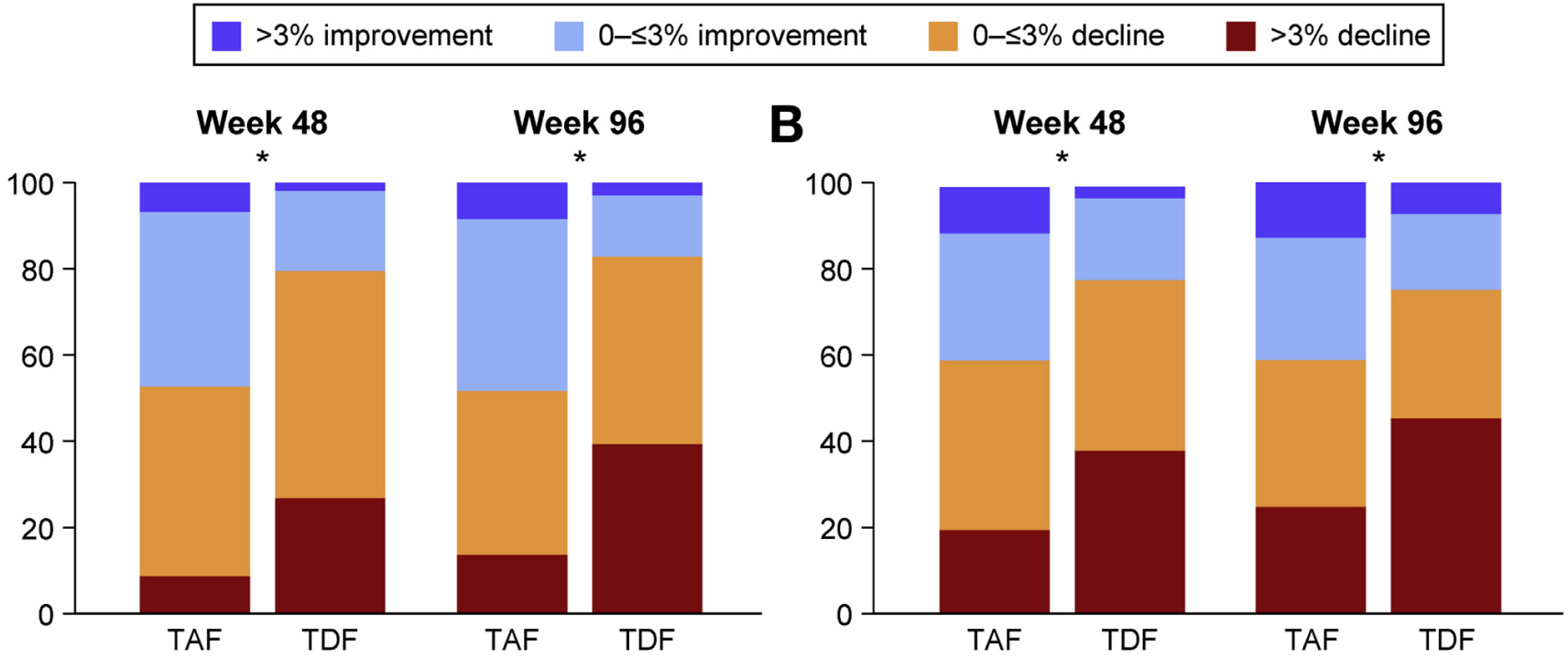
Improved Bone Safety of Tenofovir Alafenamide Compared to Tenofovir Disoproxil Fumarate Over 2 Years in Patients With Chronic HBV Infection

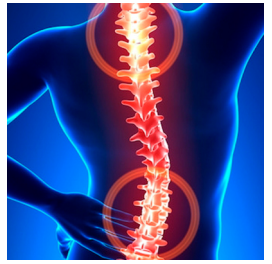


Clin Gastroenterol Hepatol . 2018 Jun 20:S1542-3565(18)30633-5

Improved Bone Safety of Tenofovir Alafenamide Compared to Tenofovir Disoproxil Fumarate Over 2 Years in Patients With Chronic HBV Infection







Clin Gastroenterol Hepatol . 2018 Jun 20:S1542-3565(18)30633-5

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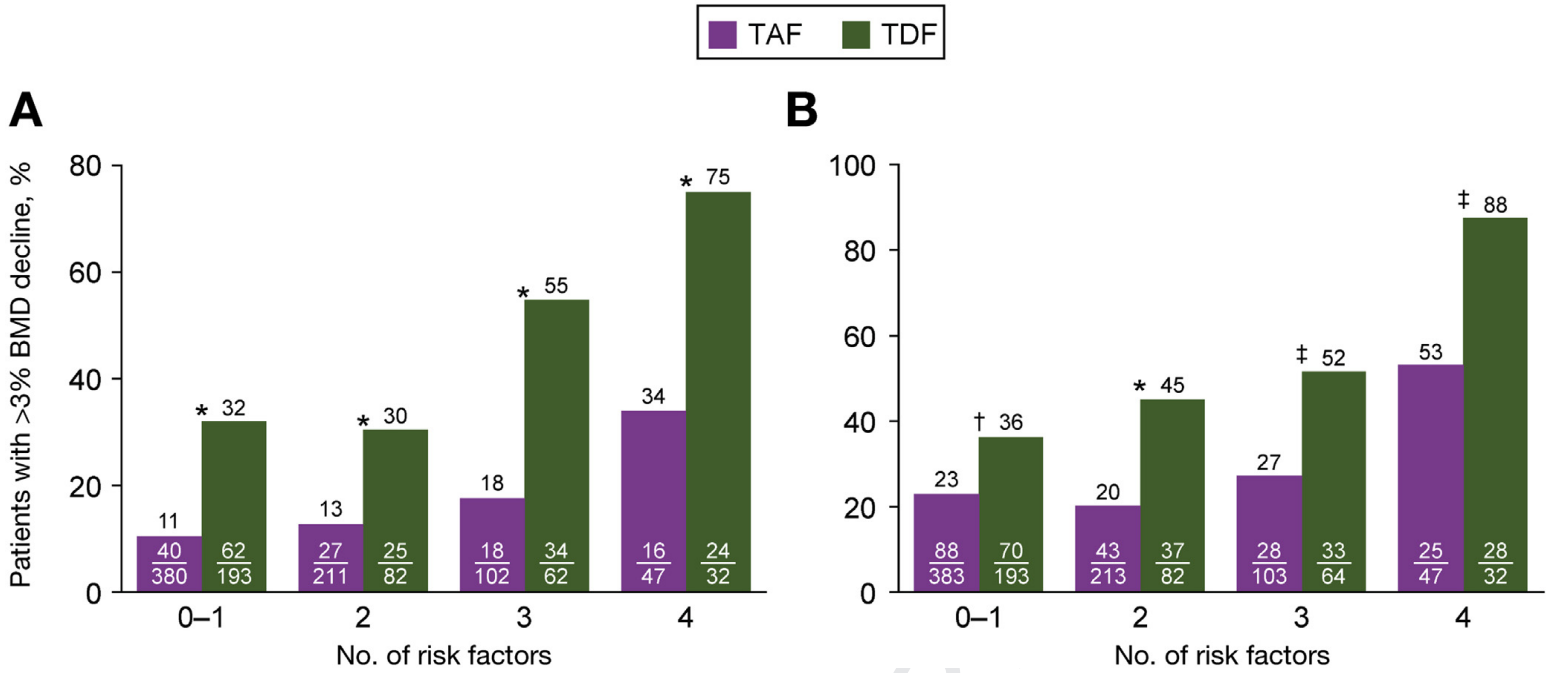
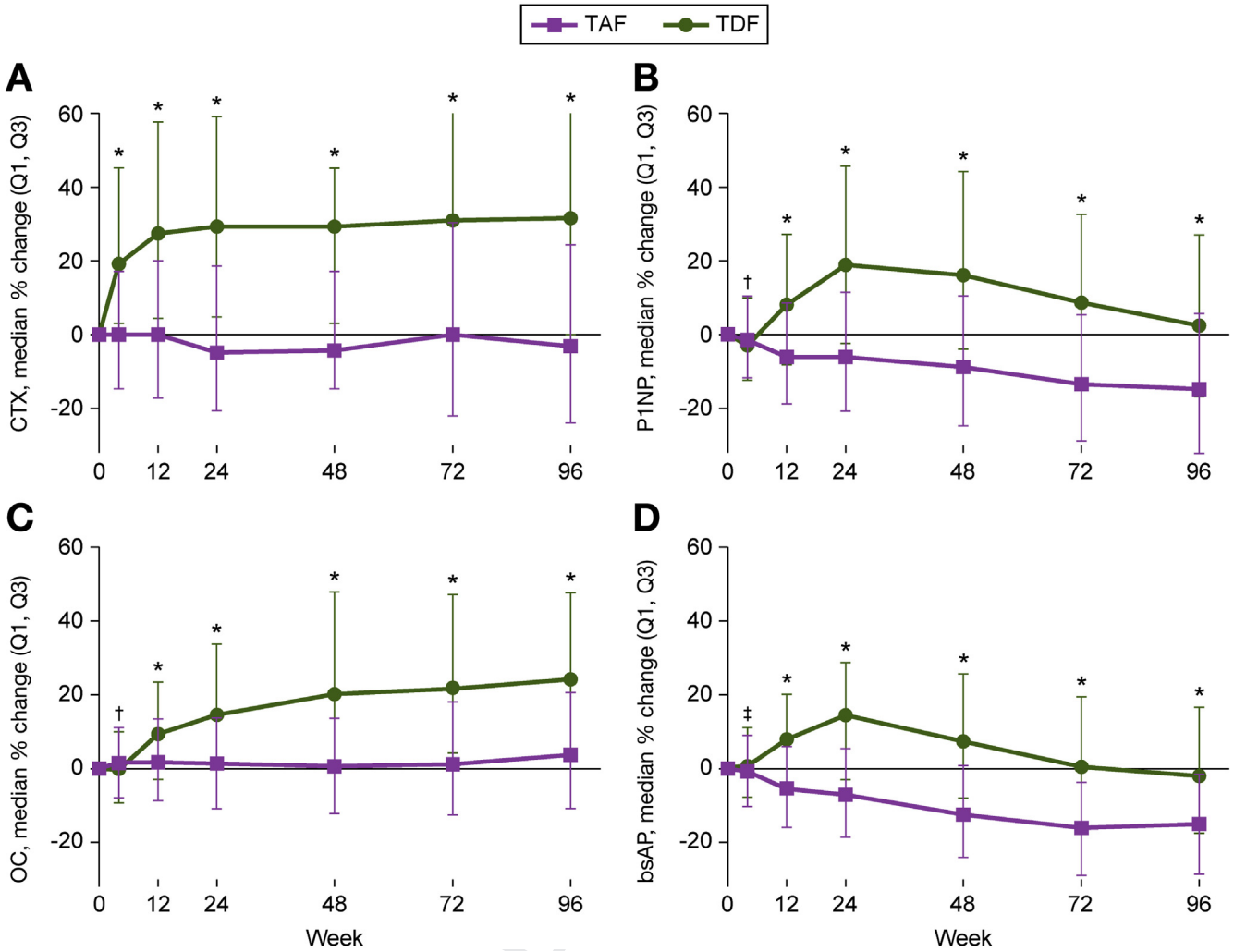


Clin Gastroenterol Hepatol . 2018 Jun 20:S1542-3565(18)30633-5

Improved Bone Safety of Tenofovir Alafenamide Compared to Tenofovir Disoproxil Fumarate Over 2 Years in Patients With Chronic HBV Infection



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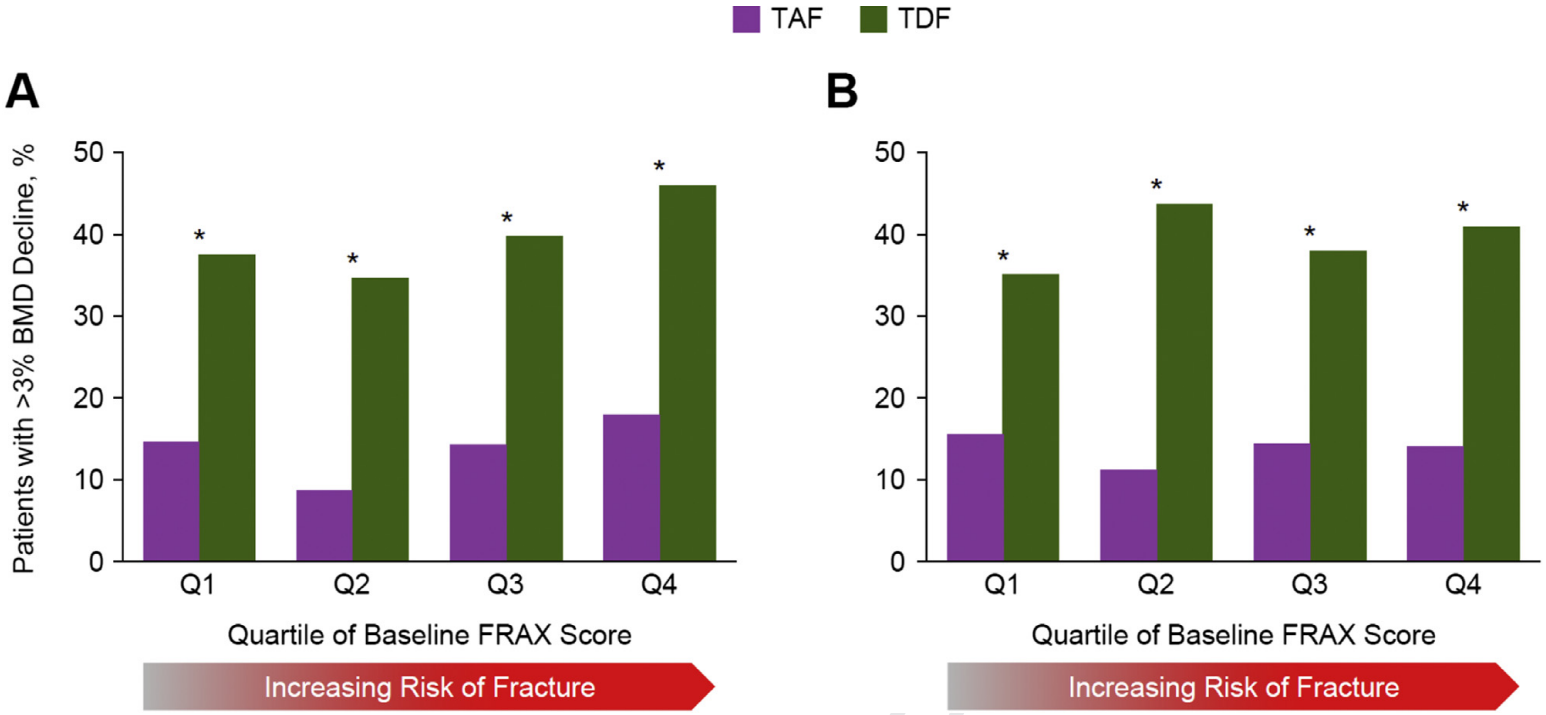


Supplementary Figure 1. Impact of baseline quartile of FRAX score on the proportion of patients who experienced a >3% decline in hip bone mineral density at Week 96 for (*A*) major osteoporotic FRAX score and (*B*) hip FRAX score. *$P < .001$ by Fisher exact test.

TDF vs TAF

Ambos son profármacos

- tenofo… …ula antiviral activa)

TDF

… en tenofovir en plasma
…máticos altos.

TAF

- …es más estable en plasma
- entra intacto a linfocitos/hepatocitos
- allí se activa intracelularmente.

Por eso:

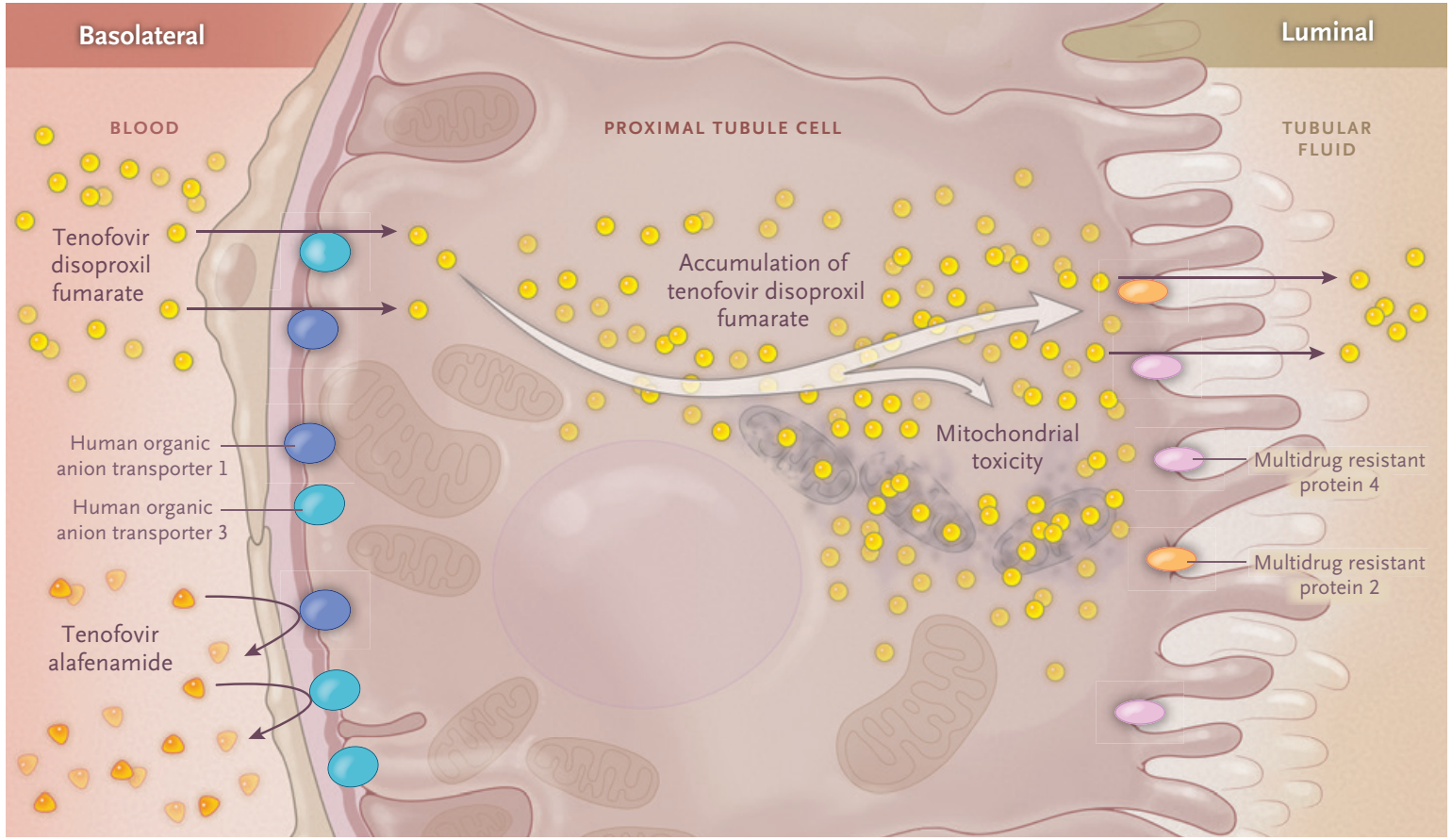
- TAF necesita dosis mucho menores:
  - TDF: 300 mg
  - TAF: 25 mg (o 10 mg con potenciadores)

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Julie R. Ingelfinger, M.D., *Editor*

Kidney Diseases Associated with Human Immunodeficiency Virus Infection



N Engl J Med 2017;377:2363-74.

Clinical Kidney Journal, 2015, vol. 8, no. 4, 420–425

doi: 10.1093/ckj/sfv041
Advance Access Publication Date: 3 June 2015
Original Article

ORIGINAL ARTICLE

Proximal tubular dysfunction and kidney injury associated with tenofovir in HIV patients: a case series

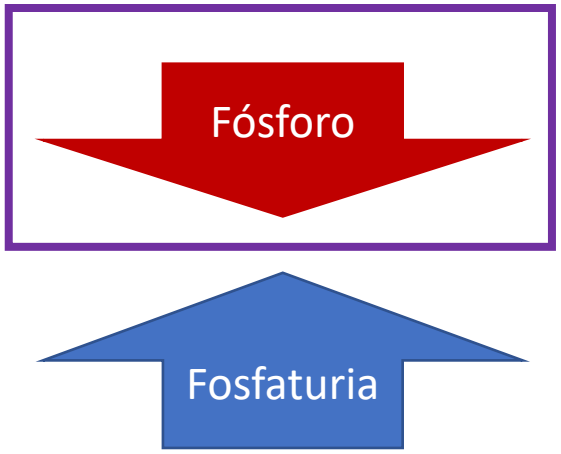
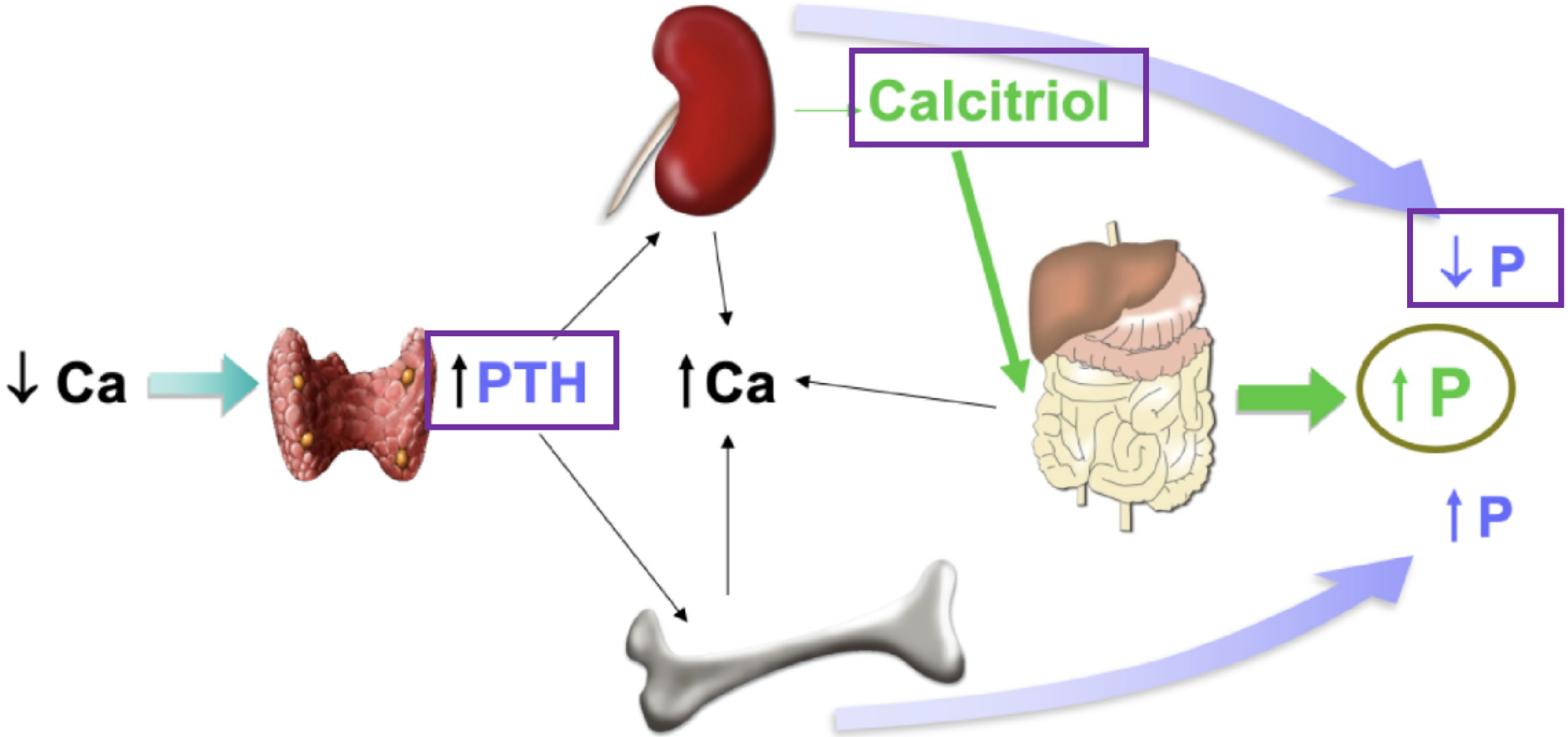


Table 2. Individual characteristics of 15 patients with proximal tubular dysfunction at the time of diagnosis of TDF-induced proximal tubulopathy

	Baseline[a] serum creatinine (mg/dL)	Baseline[a] GFR (mL/min/ 1.73 $m^{2)}$	Months of TDF therapy	Creatinine at TDF stop (mg/dL)	GFR at TDF stop (mL/min/ 1.73 m^2)	Change in GFR (mL/min/ 1.73 m^2)	Serum phosphate (mg/dL)	Fractional excretion of phosphate	TmP/GFR (mg/dL)	Urine glucose	Serum potassium (meq/L)	Serum bicarbonate (meq/L)
1	0.8	97	51	1.3	58	−39	2.4	20	1.9	–	3.1	20
2	0.7	126	103	1.1	69	−57	3.6	21	2.8	+	3.8	28
3	1.0	86	54	1.3	74	−12	2.0	21	1.6	–	5.0	28
4	0.8	121	48	1.2	75	−46	2.9	24	2.2	+	4.1	23
5	1.0	83	59	1.2	64	−19	2.4	27	1.8	–	3.3	30
6	0.8	106	72	1.5	52	−54	2.0	30	1.4	–	4.2	25
7	1.0	88	70	1.5	52	−36	2.0	30	1.4	–	4.2	25
8	0.6	122	94	1.2	70	−52	3.1	30	2.2	–	4.0	26
9	0.8	103	62	1.0	77	−26	3.1	33	2.1	+	4.4	28
10	0.6	115	53	1.0	83	−32	2.2	33	1.5	+	4.3	23
11	0.5	136	56	1.1	69	−67	1.0	42	0.6	+	3.8	21
12	0.8	100	53	2.1	30	−70	2.2	44	1.1	–	3.7	21
13	0.9	111	28	1.1	85	−26	1.0	45	0.6	+	3.3	22
14	1.0	81	50	1.2	63	−18	2.6	48	1.4	–	4.5	27
15	1.0	92	103	0.5	116	24[b]	2.0	62	0.8	+	3.1	21


↓ Ca
↑ PTH
↑ Ca
Calcitriol
↓ P
↑ P
↑ P

Bone 161 (2022) 116449

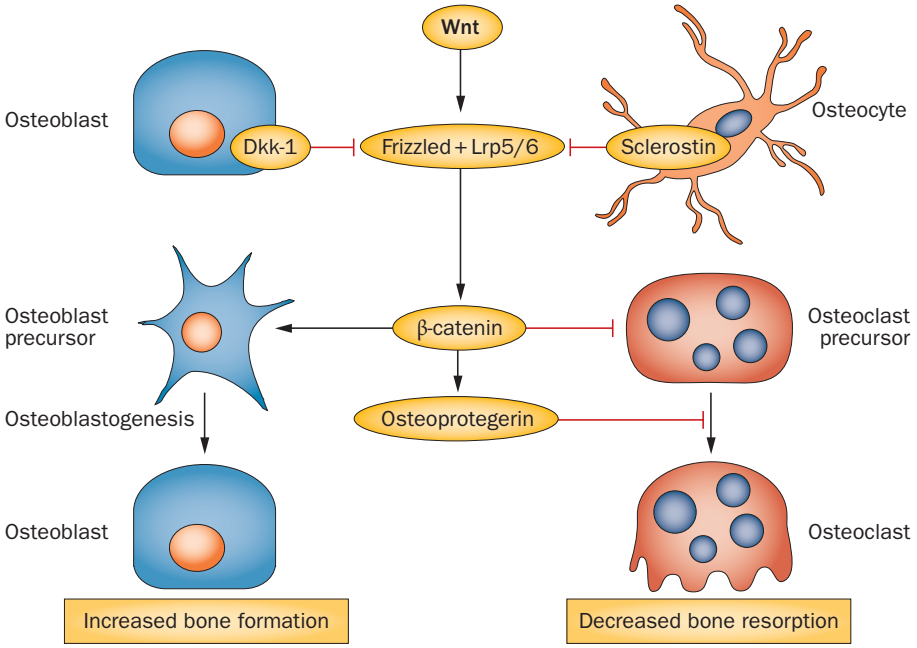
Contents lists available at ScienceDirect

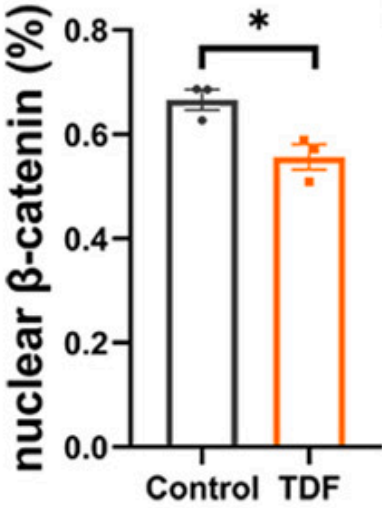
Bone

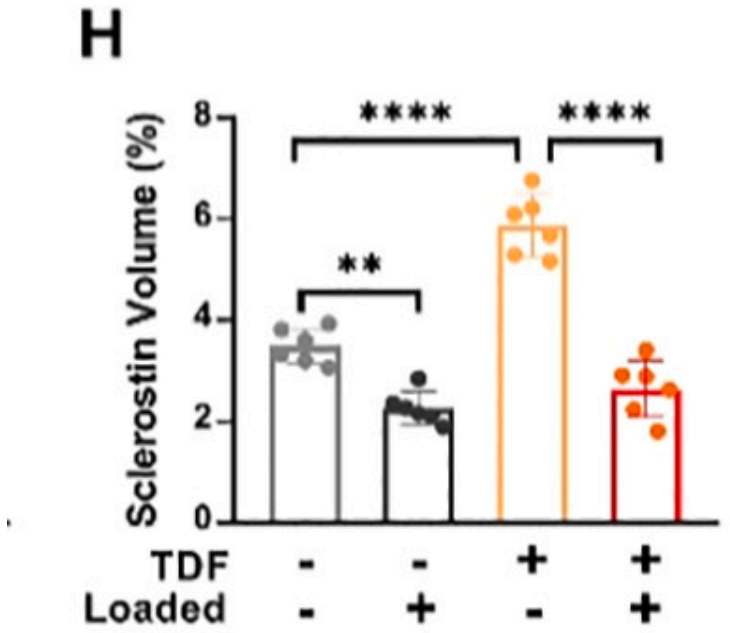
journal homepage: www.elsevier.com/locate/bone

Full Length Article

Mechanical loading attenuated negative effects of nucleotide analogue reverse-transcriptase inhibitor TDF on bone repair via Wnt/β-catenin pathway





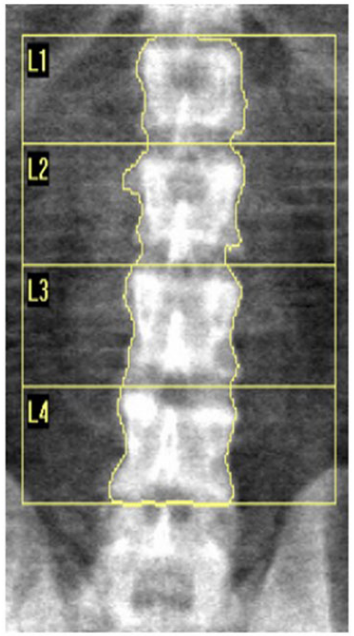


Endocrinology, Diabetes & Metabolism CASE REPORTS
A Joseph and others
ID: 22-0259; March 2023
DOI: 10.1530/EDM-22-0259

Tenofovir-induced hypophosphatemic osteomalacia: how do bone mineral density, trabecular bone score and proximal hip geometry change with treatment?

TAF +

A



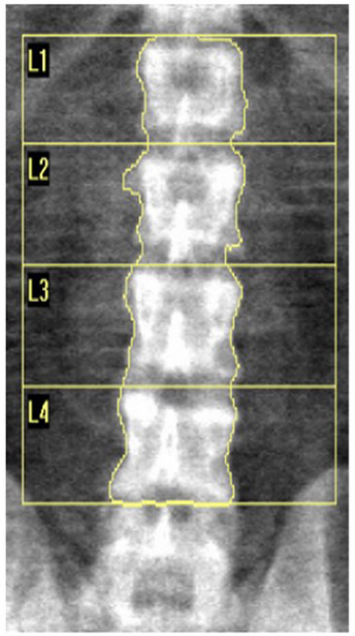
DXA Results Summary:

Region	Area (cm^2)	BMC (g)	BMD (g/cm^2)	T-score	PR (%)	Z-score	AM (%)
L1	8.43	5.39	0.640	-3.2	65	-2.6	69
L2	9.16	6.80	0.743	-2.6	72	-1.9	78
L3	11.49	7.65	0.666	-3.8	61	-3.1	66
L4	11.38	7.15	0.628	-3.9	59	-3.2	64
Total	**40.46**	**26.99**	**0.667**	**-3.5**	**64**	**-2.7**	**69**

BMD at the lumbar spine at presentation

TAF -

B



DXA Results Summary:

Region	Area (cm^2)	BMC (g)	BMD (g/cm^2)	T-score	PR (%)	Z-score	AM (%)
L1	9.16	7.38	0.805	-1.7	81	-1.0	88
L2	10.67	9.42	0.883	-1.3	86	-0.6	93
L3	11.30	10.36	0.918	-1.5	85	-0.7	92
L4	11.77	10.99	0.933	-1.2	88	-0.4	96
Total	**42.91**	**38.16**	**0.889**	**-1.4**	**85**	**-0.7**	**92**

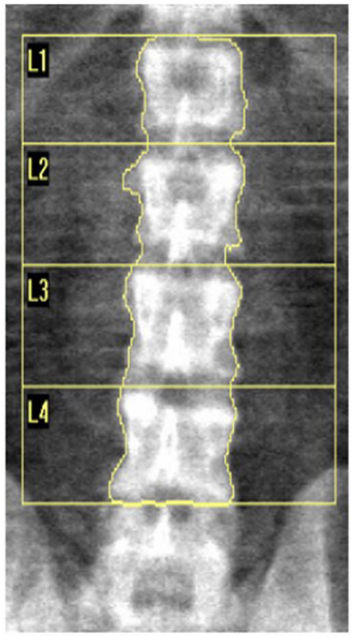
BMD at the lumbar spine on follow-up

Endocrinology, Diabetes & Metabolism CASE REPORTS
A Joseph and others
ID: 22-0259; March 2023
DOI: 10.1530/EDM-22-0259

Tenofovir-induced hypophosphatemic osteomalacia: how do bone mineral density, trabecular bone score and proximal hip geometry change with treatment?

TAF +

A



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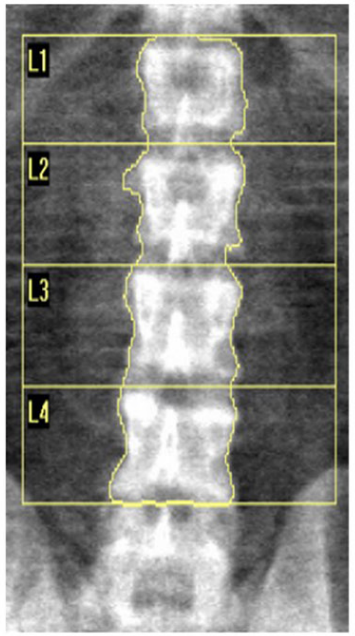
BMD at the lumbar spine at presentation

TAF -

B



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Total	**42.91**	**38.16**	**0.889**	**-1.4**	**85**	**-0.7**	**92**

BMD at the lumbar spine on follow-up

- 17%

- 21%

- 10% :

duplica el riesgo de fractura

Open

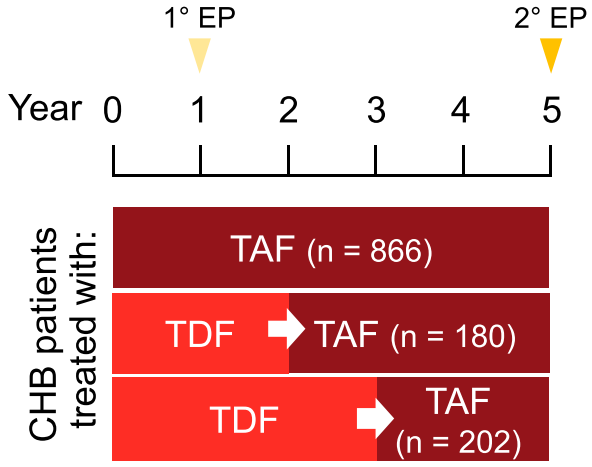
Long-Term Treatment With Tenofovir Alafenamide for Chronic Hepatitis B Results in High Rates of Viral Suppression and Favorable Renal and Bone Safety

Magnitud típica de diferencia

En estudios de VIH:

- TDF:
  - ↓ DMO lumbar ~2–4% el primer año.
- TAF:
  - reducción significativamente menor (~0.5–1.5%).

Tenofovir Alafenamide (TAF) vs Tenofovir Disoproxil Fumarate (TDF) for Chronic Hepatitis B (CHB): 5-Year Results From 2 Phase 3 Studies



	HBV DNA <29 IU/mL	Change from baseline: Median eGFR (mL/min)		Change from baseline: Mean (%) spine BMD	
	At Yr 5	Yr 1	Yr 5	Yr 1	Yr 5
TAF (n = 866)	85% (628/741)	−1.2	−2.4	−0.6	−0.3
TDF → TAF (n = 180)	83% (125/150)	−4.8	−2.9	−2.7	−1.1
TDF → TAF (n = 202)	90% (181/202)	−6.3	−4.9	−2.3	−0.7

Chan, et al. *Am J Gastroenterol.* 2024. doi:10.14309/ajg.0000000000002468

AJG The American Journal of GASTROENTEROLOGY

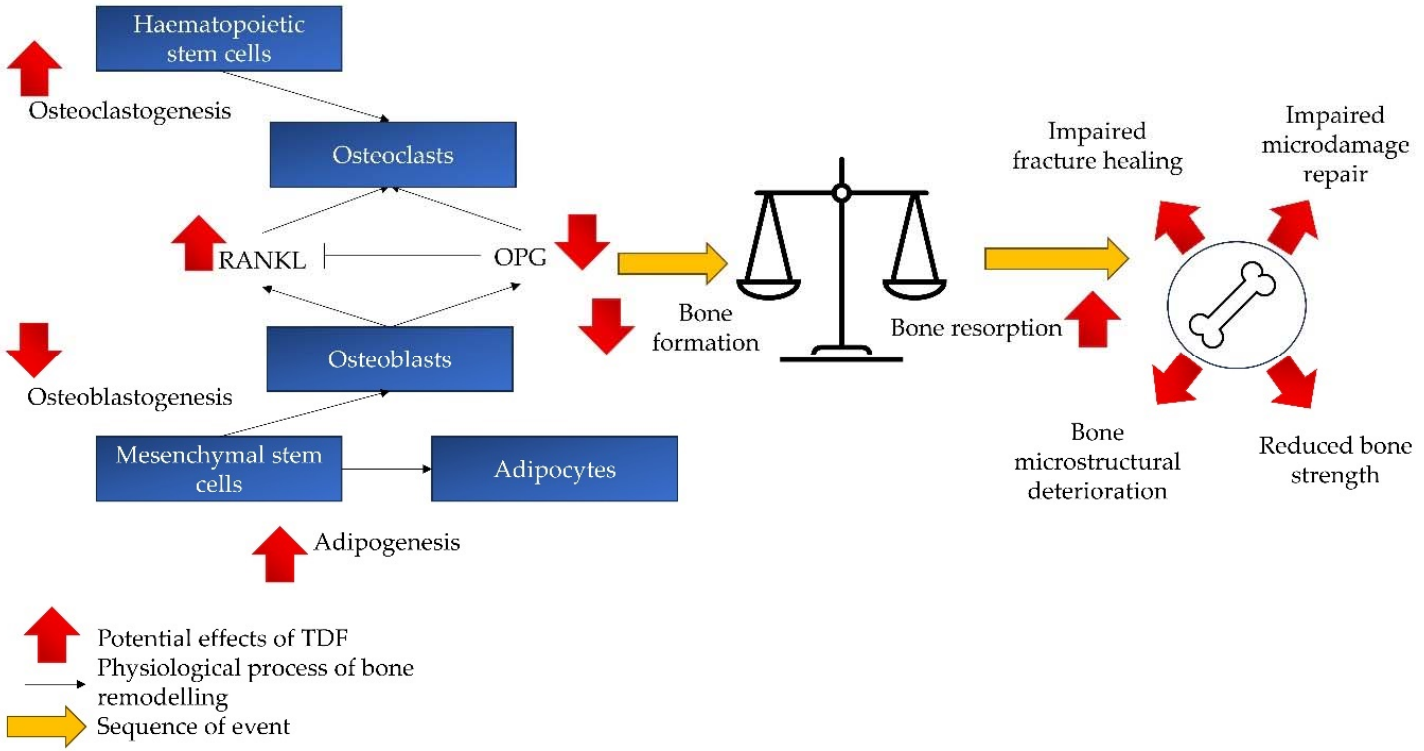
pharmaceuticals

MDPI

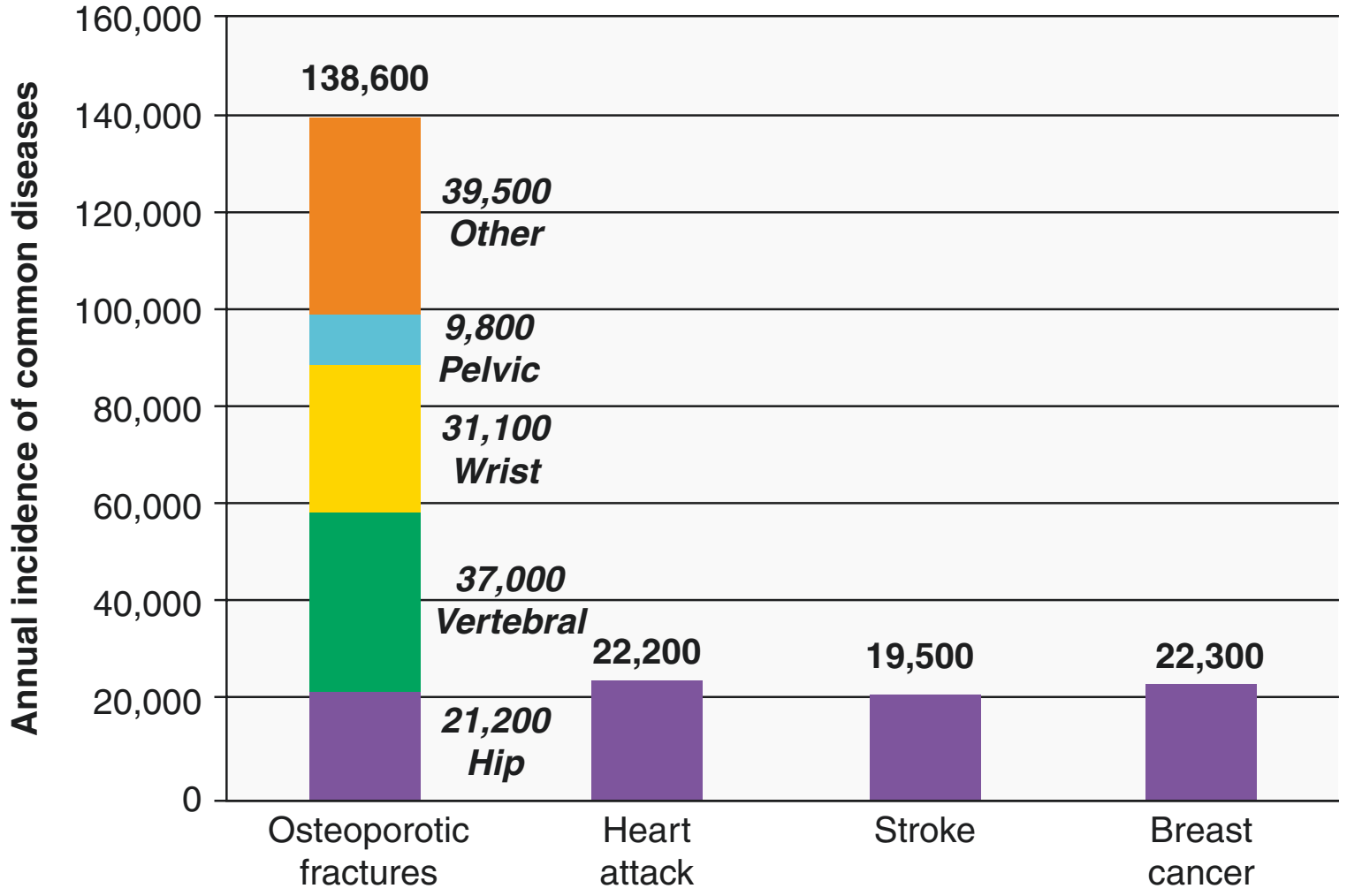
Review

Effects of Tenofovir Disoproxil Fumarate on Bone Quality beyond Bone Density—A Scoping Review of the Literature

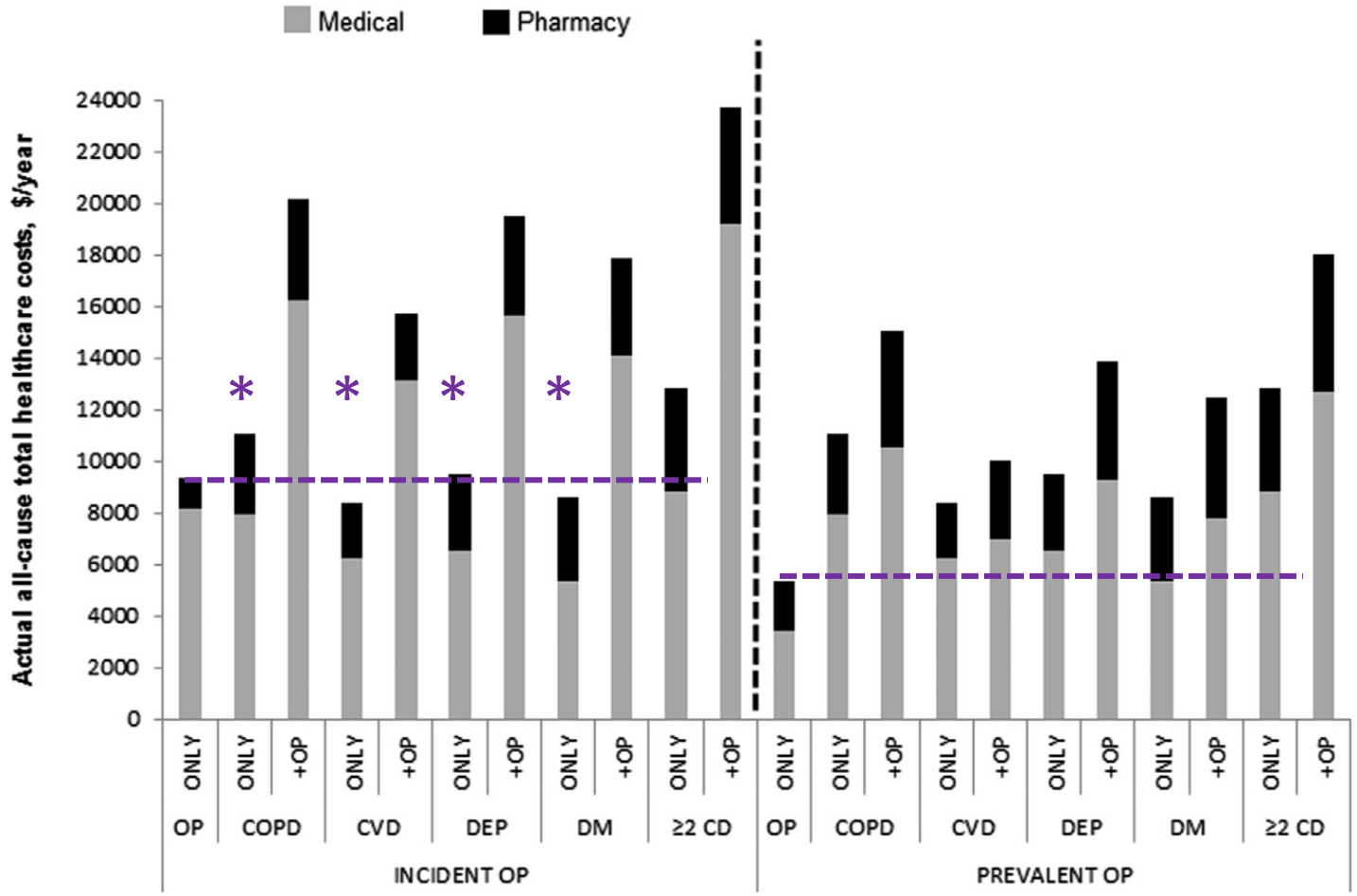
Tejpal Singh Hashwin Singh, Tejpal Singh Jashwin Singh and Kok-Yong Chin *



Pharmaceuticals **2024**, 17, 146. https://doi.org/10.3390/ph17020146


Annual incidence of common diseases
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
138,600
39,500
Other
9,800
Pelvic
31,100
Wrist
37,000
Vertebral
21,200
Hip
22,200
19,500
22,300
Osteoporotic fractures
Heart attack
Stroke
Breast cancer

Costos por Enf Crónica durante 1 año



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La MUERTE NO ES UN JUEGO DE NIÑOS


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Gracias

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