Portugal - The probabilities of a major osteoporotic fracture in men

The following tables give the 10-year probability (%) of a major osteoporotic fracture (hip, clinical spine, forearm or proximal humerus fracture) according to the T-score for femoral neck BMD , the number of clinical risk factors (CRF) and age. Each table provides a mean estimate and a range, based on the epidemiology of Portugal. The range is not a confidence interval, but because the weight of different risk factors varies, is a true range.

Note that the BMI is set at 24 kg/m².

Age = 50 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	12	7.2	4.6	3.2	2.4	1.8	1.5	1.3	1.2	1.1	1.1
1	18 (15-23)	11 (9.8-14)	7.2 (6.3-9.2)	4.9 (4.1-6.3)	3.6 (2.8-4.6)	2.8 (2.0-3.5)	2.3 (1.6-3.0)	1.9 (1.3-2.6)	1.7 (1.1-2.4)	1.7 (1.1-2.3)	1.6 (1.0-2.2)
2	27 (20-37)	17 (13-24)	11 (8.6-16)	7.4 (5.5-11)	5.4 (3.7-7.9)	4.2 (2.6-6.5)	3.4 (2.0-5.6)	2.9 (1.6-4.9)	2.6 (1.4-4.5)	2.4 (1.3-4.3)	2.3 (1.2-4.1)
3	38 (27-51)	25 (17-33)	16 (11-22)	11 (7.6-16)	8.0 (5.0-13)	6.2 (3.5-11)	5.0 (2.6-9.0)	4.2 (2.1-7.8)	3.8 (1.8-7.1)	3.6 (1.6-6.8)	3.4 (1.5-6.6)
4	51 (37-64)	35 (24-45)	23 (15-29)	16 (11-21)	12 (7.6-16)	9.0 (5.9-14)	7.2 (4.4-12)	6.1 (3.4-10)	5.4 (2.9-9.2)	5.1 (2.7-8.8)	4.9 (2.5-8.4)
5	65 (55-75)	47 (38-56)	33 (25-38)	23 (17-26)	17 (13-20)	13 (9.5-16)	10 (7.7-14)	8.6 (6.4-12)	7.6 (5.5-11)	7.2 (5.0-10)	6.8 (4.7-9.9)
6	79	61	45	32	23	18	14	12	11	9.9	9.4

FRAX® WHO Fracture Risk Assessment Tool

Ten year probability of osteoporotic fractures (%) according to BMD, the number of clinical risk factors (CRF) and age in men from Portugal.

Age = 55 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	13	8.0	5.3	3.7	2.8	2.2	1.8	1.5	1.3	1.2	1.2
1	19 (16-23)	12 (11-15)	8.1 (7.2-9.9)	5.7 (4.7-6.9)	4.2 (3.3-5.1)	3.2 (2.4-4.0)	2.6 (1.8-3.4)	2.2 (1.5-2.9)	2.0 (1.3-2.7)	1.8 (1.2-2.6)	1.7 (1.1-2.4)
2	27 (21-37)	18 (14-24)	12 (9.7-16)	8.4 (6.4-12)	6.2 (4.3-8.8)	4.8 (3.1-7.3)	3.9 (2.3-6.2)	3.2 (1.8-5.3)	2.9 (1.6-4.9)	2.7 (1.4-4.6)	2.5 (1.3-4.4)
3	38 (28-49)	26 (19-33)	18 (13-23)	12 (8.8-18)	9.1 (5.9-14)	7.0 (4.1-12)	5.6 (3.1-9.8)	4.7 (2.4-8.5)	4.2 (2.1-7.8)	3.9 (1.9-7.3)	3.7 (1.7-7.0)
4	51 (38-62)	36 (26-44)	25 (17-30)	18 (12-23)	13 (8.8-18)	10 (6.8-15)	8.0 (5.1-13)	6.7 (3.9-11)	6.0 (3.3-%10.0	5.5 (3.0-9.4)	5.2 (2.7-8.9)
5	64 (56-72)	48 (40-55)	34 (28-39)	25 (20-29)	18 (14-22)	14 (11-18)	11 (8.7-15)	9.3 (7.2-13)	8.3 (6.1-12)	7.7 (5.4-11)	7.3 (5.0-10)
6	76	61	46	34	25	19	15	13	11	11	%10.0

Age = 60 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	13	8.7	6.0	4.3	3.2	2.5	2.0	1.7	1.5	1.4	1.3
1	19 (17-22)	13 (12-15)	8.9 (7.9-11)	6.4 (5.4-7.6)	4.8 (3.8-5.7)	3.7 (2.8-4.6)	3.0 (2.1-3.8)	2.5 (1.7-3.3)	2.2 (1.5-3.0)	2.0 (1.3-2.8)	1.9 (1.2-2.7)
2	27 (22-34)	19 (15-24)	13 (11-17)	9.4 (7.3-12)	7.0 (5.1-9.7)	5.4 (3.7-8.0)	4.4 (2.7-6.7)	3.6 (2.1-5.7)	3.2 (1.8-5.3)	3.0 (1.6-5.0)	2.7 (1.5-4.7)
3	37 (28-45)	26 (20-32)	19 (14-24)	13 (10-19)	10 (6.9-15)	7.8 (4.9-12)	6.3 (3.6-11)	5.2 (2.8-9.0)	4.6 (2.4-8.3)	4.2 (2.1-7.8)	3.9 (1.9-7.3)
4	48 (38-56)	35 (27-42)	26 (19-31)	19 (14-24)	14 (10-19)	11 (7.8-16)	8.8 (5.9-13)	7.3 (4.5-12)	6.5 (3.8-11)	6.0 (3.4-%10.0	5.5 (3.0-9.3)
5	60 (53-66)	46 (40-52)	35 (29-38)	26 (21-30)	20 (16-24)	15 (12-20)	12 (9.8-16)	10 (7.9-14)	9.0 (6.7-13)	8.2 (5.9-12)	7.6 (5.3-11)
6	70	58	45	34	26	21	17	14	12	11	10

Ten year probability of osteoporotic fractures (%) according to BMD, the number of clinical risk factors (CRF) and age in men from Portugal.

Age = 65 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	13	9.5	6.8	5.0	3.8	3.0	2.4	2.0	1.8	1.6	1.5
1	19 (18-21)	14 (12-15)	9.9 (8.6-11)	7.3 (6.1-8.4)	5.6 (4.4-6.5)	4.3 (3.3-5.3)	3.5 (2.5-4.4)	2.9 (2.0-3.8)	2.6 (1.8-3.5)	2.3 (1.5-3.2)	2.1 (1.4-3.0)
2	26 (22-32)	19 (16-24)	14 (12-18)	10 (8.3-13)	8.0 (6.0-11)	6.2 (4.4-8.9)	5.0 (3.3-7.4)	4.2 (2.6-6.4)	3.7 (2.2-5.9)	3.3 (1.9-5.5)	3.1 (1.7-5.1)
3	35 (28-42)	26 (21-31)	20 (15-25)	15 (11-20)	11 (8.1-16)	8.8 (5.9-14)	7.1 (4.4-11)	5.9 (3.4-9.9)	5.2 (2.9-9.0)	4.7 (2.5-8.4)	4.3 (2.2-7.8)
4	45 (37-52)	35 (28-40)	26 (20-32)	20 (15-26)	16 (12-21)	12 (9.0-17)	9.8 (6.9-15)	8.2 (5.4-13)	7.2 (4.5-12)	6.5 (3.9-11)	6.0 (3.4-%10.0)
5	55 (50-60)	44 (39-48)	35 (30-39)	27 (23-32)	21 (18-26)	17 (14-21)	13 (11-18)	11 (9.0-15)	9.9 (7.5-14)	8.9 (6.5-13)	8.1 (5.7-12)
6	64	54	44	35	28	22	18	15	13	12	11

Age = 70 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	14	11	7.9	6.1	4.7	3.7	3.0	2.5	2.2	2.0	1.8
1	20 (18-25)	15 (13-19)	12 (9.5-14)	8.8 (7.0-11)	6.8 (5.3-8.3)	5.3 (4.0-6.4)	4.2 (3.1-5.1)	3.5 (2.6-4.2)	3.1 (2.2-3.7)	2.7 (1.9-3.2)	2.5 (1.7-2.9)
2	29 (23-36)	22 (17-28)	17 (13-21)	13 (9.5-17)	9.7 (7.1-13)	7.5 (5.4-10)	5.9 (4.1-8.1)	4.9 (3.3-6.8)	4.3 (2.8-5.9)	3.7 (2.4-5.2)	3.3 (2.1-4.7)
3	39 (31-47)	30 (23-38)	23 (17-31)	18 (13-24)	14 (9.6-19)	11 (7.2-15)	8.3 (5.5-12)	6.8 (4.4-10)	5.8 (3.7-8.9)	5.1 (3.1-7.9)	4.5 (2.7-7.1)
4	50 (41-57)	41 (33-48)	32 (25-39)	25 (19-31)	19 (14-25)	15 (11-20)	12 (8.3-16)	9.4 (6.6-13)	8.0 (5.5-12)	6.9 (4.7-10)	6.1 (4.1-9.1)
5	60 (53-65)	51 (44-57)	42 (35-48)	34 (27-39)	26 (21-31)	21 (16-25)	16 (13-20)	13 (10-17)	11 (8.7-14)	9.3 (7.5-12)	8.1 (6.5-11)
6	69	61	53	44	35	28	22	18	15	12	11

Ten year probability of osteoporotic fractures (%) according to BMD, the number of clinical risk factors (CRF) and age in men from Portugal.

Age = 75 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	15	12	9.2	7.2	5.8	4.6	3.7	3.2	2.8	2.5	2.2
1	23 (17-38)	18 (13-30)	14 (10-23)	11 (8.0-18)	8.7 (6.2-14)	6.8 (4.9-10)	5.4 (3.8-7.9)	4.6 (3.2-6.3)	3.9 (2.7-5.1)	3.4 (2.4-4.2)	3.0 (2.1-3.5)
2	33 (23-48)	26 (18-39)	21 (14-32)	17 (11-25)	13 (8.4-20)	10 (6.5-15)	8.0 (5.1-12)	6.6 (4.2-9.5)	5.5 (3.5-7.7)	4.7 (3.0-6.4)	4.1 (2.6-5.4)
3	44 (30-57)	37 (24-49)	30 (19-41)	24 (15-34)	19 (11-27)	15 (8.8-21)	12 (6.8-17)	9.5 (5.6-14)	7.9 (4.7-11)	6.6 (4.0-9.5)	5.6 (3.4-8.0)
4	55 (38-65)	48 (31-58)	40 (25-50)	33 (20-43)	27 (16-35)	21 (12-28)	17 (9.8-22)	14 (8.1-18)	11 (6.8-15)	9.2 (5.8-13)	7.7 (5.0-11)
5	65 (47-71)	58 (40-65)	51 (33-59)	44 (27-51)	37 (22-43)	30 (18-36)	24 (14-29)	19 (12-24)	16 (10-20)	13 (8.6-16)	11 (7.5-14)
6	74	68	62	55	48	40	33	27	22	18	15

Age = 80 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	15	12	9.9	8.0	6.5	5.3	4.3	3.7	3.3	2.9	2.5
1	22 (17-37)	18 (13-30)	15 (11-25)	12 (8.6-20)	9.7 (6.8-16)	7.8 (5.5-13)	6.4 (4.4-%10.0	5.4 (3.8-8.2)	4.6 (3.2-6.7)	4.0 (2.8-5.6)	3.5 (2.4-4.7)
2	31 (22-46)	26 (18-39)	21 (14-33)	18 (11-27)	14 (9.2-22)	11 (7.4-18)	9.3 (6.0-14)	7.8 (5.0-12)	6.6 (4.2-9.8)	5.6 (3.6-8.1)	4.8 (3.1-6.8)
3	41 (27-54)	35 (23-48)	30 (19-41)	25 (15-35)	20 (12-29)	17 (9.9-24)	13 (8.0-19)	11 (6.7-16)	9.4 (5.7-13)	8.0 (4.8-11)	6.8 (4.1-9.5)
4	51 (34-61)	45 (29-55)	39 (24-49)	33 (20-43)	28 (17-36)	23 (13-30)	19 (11-25)	16 (9.3-21)	13 (7.9-18)	11 (6.7-15)	9.4 (5.8-13)
5	61 (42-67)	55 (37-62)	49 (31-56)	43 (26-50)	37 (22-43)	31 (18-37)	26 (15-32)	22 (13-27)	19 (11-23)	16 (9.4-19)	13 (8.2-16)
6	69	65	59	53	47	41	35	30	25	21	18

Ten year probability of osteoporotic fractures (%) according to BMD, the number of clinical risk factors (CRF) and age in men from Portugal.

Age = 85 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	14	11	9.3	7.7	6.4	5.3	4.5	3.9	3.4	3.0	2.6
1	20 (15-33)	17 (12-28)	14 (%10.0-24)	12 (8.2-20)	9.6 (6.7-16)	7.9 (5.5-13)	6.6 (4.6-11)	5.7 (3.9-9.2)	5.0 (3.4-7.8)	4.3 (2.9-6.5)	3.7 (2.5-5.5)
2	28 (19-42)	24 (16-37)	20 (13-31)	17 (11-26)	14 (9.0-22)	12 (7.4-18)	9.8 (6.2-15)	8.4 (5.3-13)	7.2 (4.5-11)	6.2 (3.9-9.3)	5.3 (3.4-7.9)
3	38 (25-51)	33 (21-45)	28 (18-40)	24 (15-34)	20 (12-29)	17 (10-25)	14 (8.4-21)	12 (7.2-18)	10 (6.1-15)	8.9 (5.3-13)	7.7 (4.5-11)
4	48 (31-58)	43 (27-53)	38 (23-48)	33 (19-42)	28 (16-37)	24 (14-31)	20 (11-27)	17 (9.8-23)	15 (8.5-20)	13 (7.3-17)	11 (6.3-15)
5	58 (39-64)	53 (34-60)	48 (30-55)	43 (25-49)	37 (21-44)	32 (18-38)	28 (15-33)	24 (13-29)	21 (12-25)	18 (%10.0-22)	15 (8.7-19)
6	67	63	58	53	48	42	37	33	29	25	21

Age = 90 years

Number of CRFs	BMD T-score (femoral neck)										
	-4.0	-3.5	-3.0	-2.5	-2.0	-1.5	-1.0	-0.5	0	0.5	1.0
0	10	8.9	7.5	6.3	5.4	4.5	4.0	3.5	3.1	2.8	2.4
1	15 (11-26)	13 (9.3-22)	11 (7.9-19)	9.5 (6.6-16)	8.1 (5.6-14)	6.8 (4.7-12)	5.9 (4.0-9.9)	5.2 (3.5-8.6)	4.6 (3.1-7.5)	4.0 (2.7-6.5)	3.6 (2.4-5.6)
2	22 (15-34)	19 (12-30)	16 (11-26)	14 (8.9-22)	12 (7.5-19)	10 (6.3-16)	8.8 (5.5-14)	7.7 (4.8-12)	6.8 (4.2-10)	5.9 (3.7-9.1)	5.2 (3.2-7.9)
3	30 (19-42)	27 (16-38)	23 (14-33)	20 (12-29)	17 (10-25)	15 (8.6-22)	13 (7.5-19)	11 (6.5-17)	9.9 (5.7-14)	8.6 (5.0-13)	7.6 (4.4-11)
4	40 (25-50)	36 (22-45)	32 (19-41)	28 (16-36)	24 (14-32)	21 (12-28)	18 (10-25)	16 (8.9-22)	14 (7.9-19)	13 (6.9-17)	11 (6.0-15)
5	50 (32-57)	46 (28-52)	42 (24-48)	37 (21-43)	33 (18-39)	29 (16-34)	26 (14-31)	23 (12-28)	20 (11-24)	18 (9.4-22)	16 (8.3-19)
6	60	56	52	48	43	39	35	31	28	25	22