

The US (Black) - The probabilities of a major osteoporotic fracture in women

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 the US (Black). 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	7.9	5.3	3.8	2.9	2.4	2.0	1.7	1.6	1.5	1.5	1.4
1	12 (11-15)	8.1 (6.9-10)	5.8 (4.6-7.3)	4.4 (3.3-5.6)	3.6 (2.5-4.6)	3.0 (2.0-4.0)	2.6 (1.7-3.6)	2.4 (1.5-3.3)	2.3 (1.5-3.2)	2.2 (1.4-3.1)	2.1 (1.3-3.0)
2	18 (14-26)	12 (9.3-17)	8.7 (6.1-12)	6.6 (4.2-10)	5.3 (3.1-8.6)	4.5 (2.5-7.5)	3.8 (2.1-6.6)	3.5 (1.8-6.1)	3.4 (1.7-5.9)	3.2 (1.6-5.7)	3.1 (1.6-5.5)
3	27 (19-35)	18 (13-25)	13 (8.2-20)	9.7 (5.6-16)	7.8 (4.2-14)	6.5 (3.3-12)	5.6 (2.7-11)	5.1 (2.4-9.8)	4.9 (2.2-9.4)	4.7 (2.1-9.1)	4.5 (2.0-8.7)
4	38 (26-47)	26 (17-32)	19 (12-25)	14 (9.2-21)	11 (6.9-18)	9.3 (5.4-15)	8.0 (4.4-13)	7.3 (3.9-12)	7.0 (3.6-12)	6.7 (3.4-12)	6.4 (3.3-11)
5	51 (41-58)	36 (28-40)	26 (20-31)	20 (15-25)	16 (12-21)	13 (9.9-18)	11 (8.2-16)	10 (7.2-15)	9.8 (6.7-14)	9.4 (6.4-13)	9.0 (6.1-13)
6	65	48	36	27	22	18	16	14	13	13	12

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

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	9.7	7.0	5.3	4.2	3.5	2.9	2.5	2.3	2.2	2.1	2.0
1	15 (13-18)	10 (8.6-13)	7.9 (6.1-9.6)	6.3 (4.6-8.0)	5.2 (3.6-6.8)	4.4 (2.9-5.9)	3.7 (2.5-5.2)	3.5 (2.3-4.9)	3.3 (2.1-4.6)	3.1 (2.0-4.4)	3.0 (1.9-4.2)
2	21 (17-29)	15 (12-21)	12 (8.0-17)	9.2 (5.8-14)	7.6 (4.5-12)	6.4 (3.6-11)	5.5 (3.0-9.2)	5.1 (2.7-8.7)	4.8 (2.5-8.3)	4.6 (2.4-7.9)	4.4 (2.2-7.5)
3	30 (23-40)	22 (15-32)	17 (11-26)	13 (7.7-22)	11 (5.9-19)	9.2 (4.7-17)	7.9 (3.9-15)	7.4 (3.5-14)	7.0 (3.3-13)	6.6 (3.1-12)	6.3 (2.9-12)
4	41 (30-49)	31 (22-40)	24 (16-33)	19 (13-28)	15 (9.6-24)	13 (7.6-21)	11 (6.3-18)	10 (5.7-17)	9.8 (5.2-17)	9.3 (4.9-16)	8.9 (4.7-15)
5	54 (46-59)	42 (34-48)	32 (26-39)	26 (20-33)	21 (17-28)	18 (14-24)	15 (11-21)	14 (10-20)	14 (9.4-19)	13 (8.8-18)	12 (8.3-18)
6	67	54	43	34	29	24	21	20	18	18	17

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	12	8.5	6.5	5.2	4.3	3.6	3.1	2.9	2.7	2.5	2.4
1	17 (15-20)	13 (10-15)	9.7 (7.4-12)	7.7 (5.6-9.8)	6.3 (4.4-8.3)	5.3 (3.6-7.1)	4.6 (3.1-6.4)	4.3 (2.8-6.0)	4.0 (2.6-5.6)	3.7 (2.4-5.3)	3.5 (2.2-4.9)
2	24 (19-31)	18 (14-24)	14 (9.6-20)	11 (7.1-17)	9.1 (5.5-14)	7.6 (4.4-12)	6.7 (3.7-11)	6.2 (3.3-10)	5.8 (3.1-9.6)	5.4 (2.8-9.1)	5.1 (2.6-8.6)
3	34 (26-44)	25 (18-36)	20 (13-30)	16 (9.4-26)	13 (7.2-22)	11 (5.7-19)	9.5 (4.8-17)	8.8 (4.3-16)	8.2 (4.0-15)	7.7 (3.7-14)	7.2 (3.4-13)
4	45 (34-54)	35 (26-45)	27 (20-38)	22 (15-32)	18 (12-28)	15 (9.2-24)	13 (7.7-22)	12 (6.9-20)	11 (6.3-19)	11 (5.8-18)	10 (5.4-17)
5	57 (50-63)	46 (39-53)	36 (31-44)	30 (24-38)	25 (20-32)	21 (16-28)	18 (13-25)	17 (12-24)	16 (11-22)	15 (10-21)	14 (9.4-20)
6	69	58	47	39	33	28	24	23	21	20	19

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

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	9.7	7.5	5.9	4.7	3.9	3.5	3.2	2.9	2.7	2.5
1	19 (16-21)	14 (12-16)	11 (8.4-13)	8.6 (6.4-11)	6.9 (4.9-9.1)	5.7 (3.9-7.7)	5.1 (3.4-7.0)	4.6 (3.1-6.5)	4.2 (2.8-6.0)	3.9 (2.5-5.6)	3.6 (2.3-5.2)
2	26 (21-33)	20 (15-26)	15 (11-21)	12 (8.1-18)	10 (6.2-15)	8.2 (4.9-13)	7.3 (4.2-12)	6.7 (3.7-11)	6.1 (3.3-10)	5.6 (3.0-9.3)	5.2 (2.8-8.6)
3	36 (28-46)	28 (20-38)	22 (15-32)	17 (11-27)	14 (8.1-23)	12 (6.4-20)	10 (5.4-18)	9.4 (4.8-17)	8.6 (4.3-16)	8.0 (3.9-15)	7.4 (3.6-14)
4	47 (37-56)	37 (28-47)	29 (22-40)	24 (17-34)	19 (13-29)	16 (10-25)	14 (8.7-23)	13 (7.6-21)	12 (6.8-20)	11 (6.2-18)	10 (5.7-17)
5	58 (53-64)	47 (42-55)	38 (33-47)	31 (27-40)	26 (21-34)	22 (17-29)	19 (14-26)	18 (13-25)	16 (11-23)	15 (10-21)	14 (9.5-20)
6	69	59	49	41	34	29	26	24	22	20	19

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	15	11	8.5	6.6	5.3	4.4	3.8	3.4	3.1	2.8	2.5
1	21 (18-25)	16 (13-19)	12 (9.7-14)	9.4 (7.3-11)	7.4 (5.6-8.6)	6.1 (4.5-7.1)	5.3 (3.8-6.2)	4.7 (3.3-5.6)	4.2 (3.0-5.0)	3.8 (2.7-4.6)	3.4 (2.4-4.1)
2	30 (24-38)	23 (17-29)	17 (13-23)	13 (9.4-17)	10 (7.1-14)	8.5 (5.6-11)	7.3 (4.7-9.9)	6.5 (4.1-8.8)	5.8 (3.6-7.9)	5.2 (3.2-7.2)	4.7 (2.8-6.5)
3	41 (32-53)	32 (23-42)	24 (17-33)	19 (12-27)	14 (9.4-21)	12 (7.4-18)	10 (6.2-15)	8.8 (5.3-14)	7.8 (4.6-12)	7.0 (4.1-11)	6.3 (3.7-10)
4	54 (44-63)	43 (34-52)	33 (25-42)	26 (19-34)	20 (15-27)	16 (12-23)	14 (9.8-20)	12 (8.4-17)	10 (7.3-16)	9.3 (6.5-14)	8.4 (5.8-13)
5	67 (60-72)	56 (48-61)	44 (38-51)	35 (29-41)	27 (23-33)	22 (18-27)	18 (15-24)	16 (13-21)	14 (12-19)	12 (10-17)	11 (9.1-15)
6	78	68	57	46	36	29	25	21	18	16	15

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

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	17	13	9.7	7.5	5.9	4.9	4.2	3.7	3.2	2.9	2.6
1	26 (20-39)	19 (15-29)	15 (11-21)	11 (8.4-15)	8.5 (6.3-11)	6.9 (5.2-8.6)	5.9 (4.3-6.8)	5.0 (3.7-5.8)	4.3 (3.2-5.1)	3.8 (2.8-4.6)	3.4 (2.4-4.1)
2	37 (27-54)	29 (20-43)	22 (15-32)	16 (11-24)	12 (8.2-18)	9.9 (6.6-14)	8.2 (5.4-11)	6.8 (4.5-9.0)	5.8 (3.9-8.0)	5.0 (3.3-7.1)	4.4 (2.9-6.4)
3	51 (35-66)	41 (26-54)	31 (20-43)	24 (15-33)	18 (11-25)	14 (8.7-20)	11 (7.1-16)	9.4 (6.0-13)	7.9 (5.1-11)	6.7 (4.4-9.5)	5.8 (3.8-8.2)
4	65 (46-75)	54 (36-65)	44 (28-54)	34 (21-42)	26 (16-33)	20 (13-26)	16 (11-21)	13 (9.1-17)	11 (7.8-14)	9.0 (6.8-12)	7.7 (5.7-11)
5	76 (60-81)	68 (49-74)	58 (40-64)	47 (31-52)	36 (24-41)	29 (20-33)	23 (17-27)	18 (14-22)	15 (12-18)	12 (11-15)	10 (8.6-13)
6	83	78	71	61	49	40	32	25	20	16	14

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	19	15	12	9.0	7.2	6.1	5.2	4.5	3.9	3.4	2.9
1	28 (22-42)	22 (17-33)	17 (13-25)	13 (9.9-19)	10 (7.8-14)	8.6 (6.4-11)	7.2 (5.3-8.9)	6.1 (4.5-7.2)	5.2 (3.8-6.0)	4.5 (3.3-5.2)	3.9 (2.8-4.6)
2	39 (29-56)	31 (22-46)	25 (17-36)	19 (13-28)	15 (10-22)	12 (8.2-17)	10 (6.7-14)	8.3 (5.6-11)	7.0 (4.7-9.2)	6.0 (4.0-7.9)	5.1 (3.4-6.9)
3	52 (37-66)	43 (29-57)	34 (22-46)	27 (17-37)	21 (13-29)	17 (11-24)	14 (8.9-19)	12 (7.3-16)	9.6 (6.2-13)	8.0 (5.2-11)	6.8 (4.5-9.4)
4	64 (47-74)	55 (38-66)	46 (30-56)	37 (23-46)	30 (18-37)	24 (15-30)	20 (13-25)	16 (11-21)	13 (9.1-17)	11 (7.8-14)	9.1 (6.7-12)
5	74 (58-79)	67 (50-73)	59 (41-65)	49 (33-55)	41 (27-46)	33 (23-38)	27 (19-32)	22 (16-26)	18 (14-22)	15 (12-18)	12 (10-15)
6	81	76	70	62	53	45	37	30	25	20	16

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

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	19	15	12	9.0	7.5	6.3	5.3	4.5	3.9	3.3	2.8
1	27 (21-39)	21 (16-31)	17 (13-24)	13 (9.8-19)	11 (7.9-15)	8.9 (6.6-12)	7.4 (5.5-9.6)	6.2 (4.6-7.7)	5.3 (3.8-6.3)	4.5 (3.2-5.2)	3.8 (2.8-4.4)
2	37 (27-53)	30 (21-44)	24 (17-35)	19 (13-28)	15 (10-23)	13 (8.5-18)	10 (7.0-15)	8.7 (5.8-12)	7.3 (4.8-9.9)	6.1 (4.0-8.1)	5.1 (3.4-6.7)
3	49 (35-63)	41 (28-54)	33 (22-45)	27 (17-36)	22 (14-30)	18 (11-25)	15 (9.2-20)	12 (7.7-17)	10 (6.4-14)	8.4 (5.3-12)	7.0 (4.5-9.7)
4	61 (44-71)	53 (36-63)	45 (29-55)	37 (23-45)	31 (19-38)	25 (16-32)	21 (13-26)	17 (11-22)	14 (9.3-18)	12 (7.8-15)	9.6 (6.7-13)
5	71 (55-77)	65 (47-71)	57 (39-63)	49 (32-55)	41 (27-47)	35 (23-40)	29 (19-34)	24 (16-28)	20 (14-23)	16 (12-19)	13 (10-16)
6	79	74	68	61	54	46	39	33	27	22	18

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	14	11	8.8	7.1	6.0	5.0	4.2	3.6	3.0	2.6	2.2
1	20 (15-30)	16 (12-24)	13 (9.4-19)	10 (7.5-15)	8.6 (6.3-12)	7.2 (5.2-10)	6.0 (4.4-8.2)	5.0 (3.6-6.7)	4.2 (3.1-5.5)	3.6 (2.6-4.5)	3.0 (2.2-3.7)
2	28 (20-41)	23 (16-34)	18 (12-28)	15 (9.9-22)	12 (8.2-19)	10 (6.8-15)	8.6 (5.7-13)	7.2 (4.7-10)	6.0 (3.9-8.6)	5.0 (3.3-7.1)	4.2 (2.7-5.8)
3	38 (26-51)	32 (21-43)	26 (16-36)	21 (13-30)	18 (11-25)	15 (9.1-21)	12 (7.6-17)	10 (6.3-14)	8.5 (5.2-12)	7.1 (4.4-9.9)	5.9 (3.6-8.3)
4	50 (33-60)	43 (27-52)	36 (22-45)	30 (18-38)	25 (15-32)	21 (13-27)	18 (11-23)	15 (9.0-19)	12 (7.5-16)	10 (6.3-13)	8.3 (5.3-11)
5	61 (43-67)	54 (37-61)	47 (30-54)	40 (25-46)	35 (22-40)	30 (18-35)	25 (16-29)	21 (13-25)	17 (11-21)	14 (9.4-17)	12 (7.9-14)
6	71	66	59	52	46	40	35	29	24	20	17