FRAX® WHO Fracture Risk Assessment Tool

New Zealand - 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 New Zealand. 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	7.4	4.7	3.2	2.4	1.8	1.5	1.3	1.1	1.1	1.0
1	18 (15-24)	11 (9.9-15)	7.3 (6.4-9.4)	5.0 (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)	1.6 (1.1-2.3)	1.6 (1.0-2.2)
2	27 (20-38)	17 (13-24)	11 (8.7-16)	7.5 (5.6-11)	5.4 (3.8-7.9)	4.2 (2.6-6.5)	3.4 (2.0-5.6)	2.9 (1.6-4.8)	2.6 (1.4-4.4)	2.4 (1.3-4.2)	2.3 (1.2-4.1)
3	39 (27-52)	25 (18-34)	16 (12-22)	11 (7.8-16)	8.1 (5.1-13)	6.2 (3.5-10)	5.0 (2.6-8.9)	4.2 (2.1-7.8)	3.7 (1.8-7.1)	3.5 (1.6-6.8)	3.4 (1.5-6.5)
4	52 (38-65)	36 (24-46)	24 (16-30)	16 (11-21)	12 (7.7-16)	8.9 (5.8-13)	7.2 (4.4-11)	6.0 (3.4-10)	5.3 (2.9-9.1)	5.0 (2.6-8.6)	4.8 (2.5-8.3)
5	66 (56-76)	48 (38-57)	33 (26-39)	23 (18-26)	17 (13-20)	13 (9.5-16)	10 (7.6-14)	8.5 (6.4-12)	7.5 (5.4-11)	7.1 (4.9-10)	6.7 (4.6-9.8)
6	79	62	45	32	23	18	14	12	10	9.8	9.3

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

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	8.5	5.7	4.0	3.0	2.3	1.9	1.6	1.4	1.3	1.3
1	20 (17-24)	13 (12-16)	8.6 (7.6-11)	6.0 (5.0-7.4)	4.5 (3.5-5.5)	3.5 (2.6-4.4)	2.8 (2.0-3.7)	2.4 (1.6-3.2)	2.1 (1.4-2.9)	2.0 (1.3-2.8)	1.9 (1.2-2.6)
2	29 (22-38)	19 (15-26)	13 (10-17)	9.0 (6.8-12)	6.6 (4.6-9.5)	5.2 (3.3-7.8)	4.2 (2.5-6.7)	3.5 (2.0-5.8)	3.1 (1.7-5.3)	2.9 (1.5-5.0)	2.8 (1.4-4.8)
3	40 (30-51)	27 (20-35)	19 (14-25)	13 (9.3-19)	9.7 (6.2-15)	7.5 (4.4-12)	6.1 (3.3-11)	5.1 (2.6-9.1)	4.5 (2.2-8.4)	4.2 (2.0-8.0)	4.0 (1.9-7.6)
4	53 (40-64)	38 (27-46)	26 (18-32)	19 (13-24)	14 (9.5-19)	11 (7.3-16)	8.6 (5.4-14)	7.2 (4.2-12)	6.5 (3.6-11)	6.0 (3.2-10)	5.6 (3.0-9.7)
5	66 (58-74)	50 (42-57)	36 (29-40)	26 (21-30)	19 (15-24)	15 (12-19)	12 (9.4-16)	10 (7.7-14)	9.0 (6.5-13)	8.4 (5.9-12)	7.9 (5.4-11)
6	78	63	48	35	27	21	17	14	12	11	11

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	8.5	5.9	4.3	3.2	2.5	2.0	1.7	1.5	1.4	1.3
1	18 (16-21)	13 (12-15)	8.8 (7.7-10)	6.4 (5.3-7.5)	4.8 (3.8-5.7)	3.8 (2.8-4.7)	3.0 (2.2-3.9)	2.5 (1.7-3.4)	2.3 (1.5-3.1)	2.1 (1.4-2.9)	1.9 (1.3-2.7)
2	26 (21-33)	18 (15-24)	13 (10-17)	9.3 (7.2-12)	7.0 (5.0-9.8)	5.5 (3.6-8.1)	4.4 (2.7-6.9)	3.7 (2.1-5.9)	3.3 (1.9-5.5)	3.0 (1.7-5.1)	2.8 (1.5-4.8)
3	36 (28-44)	26 (20-31)	18 (14-24)	13 (9.8-19)	10 (6.8-15)	7.9 (4.9-13)	6.3 (3.6-11)	5.2 (2.8-9.2)	4.7 (2.4-8.5)	4.3 (2.2-8.0)	4.0 (1.9-7.5)
4	47 (37-55)	35 (26-41)	25 (19-31)	19 (13-24)	14 (10-20)	11 (7.8-16)	8.9 (5.9-14)	7.4 (4.6-12)	6.6 (3.9-11)	6.1 (3.4-10)	5.7 (3.1-9.6)
5	59 (52-65)	45 (39-51)	34 (29-38)	26 (21-30)	20 (16-24)	15 (12-20)	12 (9.8-16)	10 (7.9-14)	9.2 (6.8-13)	8.4 (6.0-12)	7.8 (5.4-11)
6	70	57	44	34	26	21	17	14	12	11	11

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

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	14	9.8	7.2	5.4	4.1	3.3	2.6	2.2	2.0	1.8	1.7
1	20 (18-22)	14 (13-16)	10 (8.9-12)	7.8 (6.4-8.9)	6.0 (4.7-7.1)	4.7 (3.5-5.9)	3.8 (2.8-5.0)	3.2 (2.2-4.3)	2.9 (1.9-4.0)	2.6 (1.7-3.7)	2.4 (1.6-3.4)
2	27 (22-33)	20 (16-25)	15 (12-18)	11 (8.6-14)	8.6 (6.3-12)	6.8 (4.6-9.8)	5.5 (3.5-8.3)	4.6 (2.8-7.2)	4.1 (2.4-6.7)	3.8 (2.1-6.2)	3.5 (1.9-5.8)
3	36 (29-42)	27 (22-33)	20 (16-26)	16 (12-22)	12 (8.5-18)	9.6 (6.2-15)	7.7 (4.7-13)	6.5 (3.7-11)	5.8 (3.2-10)	5.3 (2.8-9.4)	4.9 (2.5-8.8)
4	46 (37-52)	36 (28-41)	27 (21-33)	21 (16-27)	17 (12-23)	13 (9.7-19)	11 (7.4-16)	9.0 (5.8-14)	8.1 (4.9-13)	7.3 (4.3-12)	6.7 (3.8-11)
5	56 (50-60)	45 (40-50)	36 (31-41)	28 (24-33)	22 (19-28)	18 (15-23)	14 (12-19)	12 (9.7-17)	11 (8.2-15)	9.9 (7.1-14)	9.1 (6.4-13)
6	65	55	45	36	29	23	19	16	15	13	12

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	8.6	6.6	5.1	4.0	3.2	2.7	2.4	2.2	2.0
1	22 (19-27)	17 (14-20)	12 (10-15)	9.5 (7.6-12)	7.3 (5.7-9.0)	5.7 (4.4-7.0)	4.6 (3.4-5.5)	3.8 (2.8-4.6)	3.3 (2.4-4.0)	3.0 (2.1-3.5)	2.7 (1.8-3.2)
2	31 (25-38)	23 (18-30)	18 (14-23)	14 (10-18)	10 (7.7-14)	8.1 (5.8-11)	6.4 (4.4-8.8)	5.3 (3.6-7.3)	4.6 (3.0-6.4)	4.1 (2.6-5.7)	3.6 (2.3-5.1)
3	41 (33-50)	32 (25-41)	25 (19-33)	19 (14-26)	15 (10-21)	11 (7.8-16)	9.0 (6.0-13)	7.4 (4.8-11)	6.3 (4.0-9.6)	5.5 (3.4-8.6)	4.9 (3.0-7.7)
4	52 (43-59)	42 (34-50)	34 (27-41)	27 (20-33)	21 (15-26)	16 (12-21)	13 (9.0-17)	10 (7.2-14)	8.7 (6.0-13)	7.5 (5.1-11)	6.6 (4.4-9.9)
5	62 (54-67)	53 (45-59)	44 (37-50)	36 (29-41)	28 (23-33)	22 (18-27)	17 (14-22)	14 (11-18)	12 (9.5-15)	10 (8.1-13)	8.8 (7.1-12)
6	70	63	55	46	37	30	23	19	16	13	12

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

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	16	12	9.5	7.4	5.9	4.7	3.7	3.2	2.8	2.4	2.2
1	24 (18-40)	19 (14-32)	15 (11-25)	12 (8.4-19)	9.0 (6.5-15)	7.0 (5.0-11)	5.5 (3.9-8.4)	4.6 (3.2-6.6)	3.9 (2.7-5.3)	3.4 (2.3-4.3)	2.9 (2.0-3.6)
2	34 (24-50)	28 (19-42)	22 (15-34)	17 (11-27)	14 (8.7-21)	11 (6.7-16)	8.2 (5.2-12)	6.7 (4.3-9.9)	5.6 (3.6-8.0)	4.7 (3.0-6.5)	4.0 (2.6-5.4)
3	46 (32-59)	38 (25-51)	32 (20-43)	25 (15-35)	20 (12-28)	16 (9.1-23)	12 (7.1-18)	9.9 (5.7-14)	8.1 (4.8-12)	6.7 (4.0-9.7)	5.6 (3.4-8.1)
4	57 (40-67)	50 (33-60)	42 (27-53)	35 (21-45)	29 (17-37)	23 (13-30)	18 (10-24)	14 (8.3-19)	12 (6.9-16)	9.5 (5.8-13)	7.9 (4.9-11)
5	68 (49-74)	61 (42-68)	54 (35-61)	46 (29-53)	39 (23-45)	32 (18-37)	25 (15-30)	20 (12-25)	17 (10-20)	14 (8.7-17)	11 (7.5-14)
6	76	71	65	58	50	42	35	29	23	19	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	16	13	10	8.1	6.6	5.4	4.4	3.8	3.3	2.9	2.6
1	23 (17-38)	19 (14-32)	15 (11-26)	12 (8.8-21)	9.9 (7.0-17)	8.0 (5.6-13)	6.5 (4.5-10)	5.5 (3.8-8.5)	4.7 (3.2-7.0)	4.1 (2.8-5.8)	3.5 (2.4-4.8)
2	32 (22-48)	27 (18-41)	22 (15-34)	18 (12-28)	15 (9.4-23)	12 (7.5-18)	9.6 (6.1-15)	8.0 (5.1-12)	6.8 (4.3-10)	5.8 (3.6-8.4)	4.9 (3.1-7.0)
3	43 (29-57)	37 (24-50)	31 (19-43)	26 (16-36)	21 (13-30)	17 (10-25)	14 (8.2-20)	12 (6.9-17)	9.7 (5.8-14)	8.2 (4.9-11)	6.9 (4.2-9.7)
4	54 (36-64)	47 (30-58)	41 (25-51)	35 (21-45)	29 (17-38)	24 (14-32)	20 (11-26)	17 (9.5-22)	14 (8.0-18)	12 (6.8-15)	9.7 (5.8-13)
5	64 (45-70)	58 (39-65)	52 (33-59)	45 (27-52)	39 (23-45)	33 (18-39)	27 (15-33)	23 (13-28)	19 (11-24)	16 (9.5-20)	14 (8.2-17)
6	73	68	63	57	50	43	37	31	27	22	19

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

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	15	12	10	8.5	7.1	5.9	5.0	4.4	3.9	3.5	3.1
1	21 (16-35)	18 (13-30)	15 (11-25)	13 (8.8-21)	10 (7.2-17)	8.7 (6.0-14)	7.3 (5.0-12)	6.4 (4.3-10)	5.6 (3.7-8.5)	4.9 (3.3-7.2)	4.3 (2.9-6.1)
2	30 (20-44)	25 (17-38)	21 (14-33)	18 (12-28)	15 (9.7-23)	13 (8.0-19)	11 (6.7-16)	9.2 (5.8-14)	7.9 (5.0-12)	6.9 (4.3-10)	6.0 (3.7-8.6)
3	39 (26-53)	34 (22-47)	30 (19-41)	25 (16-36)	21 (13-30)	18 (11-26)	15 (9.1-22)	13 (7.8-19)	11 (6.7-16)	9.7 (5.8-14)	8.4 (5.0-12)
4	50 (33-60)	45 (29-55)	39 (24-49)	34 (21-44)	29 (17-38)	25 (15-33)	21 (12-28)	18 (11-24)	16 (9.1-21)	14 (7.9-18)	12 (6.8-16)
5	60 (41-66)	55 (36-62)	50 (31-56)	44 (27-51)	39 (23-45)	34 (19-40)	29 (16-35)	26 (14-31)	22 (12-27)	19 (11-23)	16 (9.5-20)
6	68	65	60	55	50	44	39	34	30	26	23

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	12	10	8.9	7.5	6.4	5.4	4.7	4.2	3.7	3.3	2.9
1	18 (13-29)	15 (11-25)	13 (9.2-21)	11 (7.8-18)	9.4 (6.5-15)	8.0 (5.5-13)	6.9 (4.8-11)	6.1 (4.2-9.8)	5.4 (3.7-8.5)	4.7 (3.2-7.4)	4.2 (2.8-6.4)
2	25 (17-37)	22 (14-33)	19 (12-28)	16 (10-25)	14 (8.8-21)	12 (7.4-18)	10 (6.4-16)	8.9 (5.6-14)	7.8 (4.9-12)	6.9 (4.3-10)	6.0 (3.8-9.1)
3	34 (22-46)	30 (19-41)	26 (16-37)	23 (14-32)	20 (12-28)	17 (10-24)	15 (8.7-21)	13 (7.6-19)	11 (6.7-16)	10 (5.8-14)	8.7 (5.1-12)
4	44 (29-54)	39 (25-49)	35 (22-45)	31 (19-40)	27 (16-35)	24 (14-31)	21 (12-27)	18 (10-24)	16 (9.2-21)	14 (8.1-19)	12 (7.1-17)
5	53 (36-60)	49 (32-56)	45 (28-52)	41 (24-47)	36 (21-42)	32 (18-38)	29 (16-34)	26 (14-31)	23 (13-27)	20 (11-24)	18 (9.8-22)
6	62	59	55	51	47	42	38	35	31	28	25