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 body mass index (BMI kg/m2), 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.

Age = 50 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	1.3	1.2	1.2	1.0	0.9	0.8	0.7
1	2.1 (1.4-3.1)	1.9 (1.3-2.8)	1.9 (1.2-2.6)	1.6 (1.1-2.2)	1.4 (0.9-2.0)	1.2 (0.8-1.7)	1.1 (0.7-1.5)
2	3.3 (1.8-5.6)	3.0 (1.6-5.2)	2.9 (1.5-5.0)	2.5 (1.3-4.4)	2.2 (1.1-3.8)	1.9 (1.0-3.4)	1.6 (0.9-2.9)
3	5.3 (2.6-9.1)	4.7 (2.3-8.4)	4.4 (2.1-8.1)	3.8 (1.8-7.0)	3.3 (1.6-6.1)	2.9 (1.3-5.4)	2.5 (1.2-4.7)
4	8.2 (4.4-13)	7.2 (3.8-12)	6.6 (3.4-11)	5.7 (2.9-9.5)	4.9 (2.5-8.3)	4.3 (2.2-7.2)	3.7 (1.9-6.3)
5	13 (7.5-17)	11 (6.8-14)	9.8 (6.5-13)	8.5 (5.6-12)	7.3 (4.9-10)	6.3 (4.2-8.7)	5.5 (3.7-7.6)
6	19	16	14	12	11	9.2	8.0

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

Age = 55 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	1.8	1.6	1.6	1.4	1.2	1.0	0.9
1	2.8 (2.0-4.2)	2.6 (1.8-3.6)	2.4 (1.6-3.3)	2.1 (1.4-2.9)	1.8 (1.2-2.5)	1.6 (1.1-2.2)	1.4 (0.9-1.9)
2	4.5 (2.5-7.3)	4.0 (2.2-6.7)	3.8 (2.0-6.4)	3.2 (1.7-5.6)	2.8 (1.5-4.9)	2.4 (1.3-4.2)	2.1 (1.1-3.7)
3	7.1 (3.8-12)	6.2 (3.2-11)	5.7 (2.8-10)	4.9 (2.4-8.9)	4.3 (2.1-7.7)	3.7 (1.8-6.7)	3.2 (1.5-5.9)
4	11 (6.4-17)	9.4 (5.3-15)	8.5 (4.7-14)	7.4 (4.0-12)	6.4 (3.4-10)	5.5 (2.9-9.1)	4.7 (2.5-7.9)
5	17 (10-22)	14 (9.2-19)	13 (8.6-17)	11 (7.4-15)	9.3 (6.4-13)	8.1 (5.5-11)	7.0 (4.8-9.6)
6	25	21	18	16	14	12	10

Age = 60 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	2.1	1.9	1.8	1.6	1.3	1.2	1.0
1	3.4 (2.4-4.8)	3.0 (2.1-4.1)	2.8 (1.9-3.8)	2.4 (1.6-3.2)	2.1 (1.4-2.8)	1.8 (1.2-2.4)	1.5 (1.0-2.1)
2	5.3 (3.1-8.1)	4.7 (2.7-7.4)	4.3 (2.4-7.1)	3.7 (2.0-6.1)	3.2 (1.7-5.3)	2.7 (1.5-4.6)	2.3 (1.3-4.0)
3	8.2 (4.9-13)	7.1 (4.0-12)	6.5 (3.4-11)	5.5 (2.9-9.6)	4.8 (2.5-8.3)	4.1 (2.1-7.2)	3.5 (1.8-6.2)
4	12 (7.7-18)	11 (6.6-16)	9.7 (5.6-15)	8.3 (4.7-13)	7.1 (4.0-11)	6.0 (3.4-9.8)	5.2 (2.8-8.5)
5	19 (12-24)	16 (11-21)	14 (9.9-19)	12 (8.4-16)	10 (7.2-14)	8.8 (6.1-12)	7.5 (5.2-10)
6	27	23	20	17	15	13	11

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

Age = 65 years

Number of CRFs	BMI (kg/m²)						
	15	**20**	**25**	**30**	**35**	**40**	**45**
0	3.0	2.7	2.5	2.2	1.9	1.6	1.4
1	4.7 (3.4-6.4)	4.2 (3.0-5.6)	3.9 (2.7-5.1)	3.3 (2.3-4.4)	2.8 (1.9-3.7)	2.4 (1.7-3.2)	2.1 (1.4-2.7)
2	7.2 (4.6-10)	6.4 (3.9-9.8)	5.9 (3.5-9.4)	5.0 (2.9-8.1)	4.3 (2.4-7.0)	3.6 (2.1-6.0)	3.1 (1.7-5.2)
3	11 (7.1-16)	9.6 (5.9-15)	8.8 (5.0-14)	7.5 (4.2-12)	6.3 (3.5-11)	5.4 (3.0-9.1)	4.6 (2.5-7.8)
4	16 (11-23)	14 (9.5-21)	13 (8.2-20)	11 (6.8-17)	9.3 (5.6-15)	7.9 (4.7-12)	6.7 (3.9-11)
5	23 (16-29)	20 (15-26)	19 (14-24)	16 (11-21)	13 (9.6-18)	11 (8.1-15)	9.6 (6.9-13)
6	31	29	26	22	19	16	14

Age = 70 years

Number of CRFs	BMI (kg/m²)						
	15	**20**	**25**	**30**	**35**	**40**	**45**
0	4.3	3.8	3.5	3.0	2.5	2.1	1.8
1	6.6 (4.7-8.4)	5.9 (4.2-7.5)	5.3 (3.8-6.8)	4.4 (3.2-5.7)	3.7 (2.6-4.8)	3.1 (2.2-4.1)	2.6 (1.8-3.4)
2	10 (6.6-15)	8.9 (5.7-13)	7.9 (5.0-11)	6.5 (4.1-9.4)	5.4 (3.4-7.9)	4.5 (2.8-6.6)	3.8 (2.3-5.6)
3	15 (9.6-23)	13 (8.6-19)	12 (7.5-17)	9.7 (6.1-15)	8.0 (5.0-12)	6.7 (4.2-10)	5.5 (3.4-8.4)
4	23 (15-32)	20 (13-28)	17 (12-25)	14 (9.6-21)	12 (7.8-18)	9.8 (6.4-15)	8.1 (5.2-12)
5	32 (26-40)	29 (24-37)	25 (20-32)	21 (17-27)	17 (14-23)	14 (11-19)	12 (9.0-16)
6	43	40	36	30	25	21	17

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

Age = 75 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	5.9	5.3	4.8	3.9	3.2	2.7	2.2
1	9.6 (6.4-15)	8.4 (5.8-12)	7.4 (5.2-9.9)	6.0 (4.2-7.9)	4.9 (3.4-6.3)	4.0 (2.8-5.1)	3.3 (2.3-4.1)
2	15 (9.1-25)	13 (8.0-21)	11 (7.0-17)	9.3 (5.7-14)	7.5 (4.6-11)	6.1 (3.7-9.0)	4.9 (3.0-7.3)
3	23 (13-36)	21 (12-31)	18 (11-26)	14 (8.4-21)	12 (6.8-17)	9.3 (5.4-14)	7.5 (4.4-11)
4	33 (20-46)	30 (18-42)	26 (16-37)	22 (13-31)	18 (10-26)	14 (8.3-21)	11 (6.7-17)
5	45 (31-55)	42 (29-51)	38 (26-47)	32 (22-40)	26 (18-34)	21 (14-28)	17 (12-23)
6	58	54	51	44	37	31	25

Age = 80 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	7.8	7.2	6.6	5.4	4.4	3.6	2.9
1	13 (8.6-20)	11 (7.8-17)	10 (7.1-15)	8.2 (5.7-12)	6.6 (4.6-9.2)	5.3 (3.7-7.3)	4.3 (3.0-5.8)
2	19 (12-31)	17 (11-27)	15 (9.7-23)	12 (7.8-18)	10 (6.2-15)	8.0 (5.0-12)	6.4 (4.0-9.3)
3	28 (17-41)	25 (15-37)	23 (14-32)	19 (11-27)	15 (8.8-22)	12 (7.0-18)	9.6 (5.5-14)
4	39 (24-51)	36 (22-47)	32 (21-43)	27 (17-36)	22 (14-30)	18 (11-25)	14 (8.6-20)
5	51 (36-60)	47 (32-56)	44 (30-53)	37 (25-46)	31 (20-39)	25 (17-33)	21 (13-27)
6	62	59	56	49	42	35	29

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

Age = 85 years

Number of CRFs	BMI (kg/m²)						
	15	**20**	**25**	**30**	**35**	**40**	**45**
0	9.7	9.0	8.6	7.0	5.7	4.6	3.7
1	15 (11-25)	14 (9.6-22)	13 (9.1-19)	10 (7.2-15)	8.5 (5.8-12)	6.8 (4.6-9.5)	5.5 (3.7-7.5)
2	23 (15-36)	21 (13-32)	19 (12-28)	16 (9.8-23)	13 (7.8-19)	10 (6.2-15)	8.1 (5.0-12)
3	33 (21-47)	30 (18-43)	28 (17-39)	23 (14-33)	18 (11-27)	15 (8.6-22)	12 (6.8-18)
4	45 (29-57)	41 (27-53)	38 (25-49)	32 (20-42)	26 (17-36)	22 (13-30)	17 (11-24)
5	56 (41-64)	53 (38-62)	49 (35-58)	43 (30-52)	36 (24-45)	30 (20-38)	25 (16-32)
6	65	64	61	55	48	41	35

Age = 90 years

Number of CRFs	BMI (kg/m²)						
	15	**20**	**25**	**30**	**35**	**40**	**45**
0	11	9.5	8.9	7.2	5.8	4.7	3.8
1	17 (12-27)	15 (10-23)	14 (9.5-20)	11 (7.6-16)	8.8 (6.1-13)	7.1 (4.8-10)	5.7 (3.9-7.9)
2	25 (16-39)	23 (14-34)	20 (13-30)	16 (10-24)	13 (8.3-20)	11 (6.6-16)	8.5 (5.2-13)
3	35 (22-49)	32 (20-45)	29 (18-41)	24 (15-35)	20 (12-29)	16 (9.2-23)	13 (7.3-19)
4	46 (31-58)	43 (29-55)	40 (26-51)	34 (22-44)	28 (18-38)	23 (14-32)	19 (11-26)
5	56 (43-63)	54 (40-63)	52 (37-60)	45 (31-54)	38 (26-47)	32 (21-40)	27 (17-34)
6	62	64	63	57	50	43	37