Thailand - 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 Thailand. 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	11	7.3	4.9	3.6	2.8	2.3	2.0	1.8	1.7	1.6	1.6
1	17 (15-22)	11 (9.8-14)	7.6 (6.3-9.6)	5.5 (4.3-6.9)	4.3 (3.1-5.4)	3.5 (2.4-4.6)	3.0 (2.0-4.0)	2.7 (1.8-3.7)	2.5 (1.6-3.5)	2.4 (1.6-3.4)	2.3 (1.5-3.3)
2	26 (20-36)	17 (13-24)	11 (8.6-16)	8.3 (5.7-12)	6.4 (4.0-9.9)	5.2 (3.0-8.5)	4.4 (2.4-7.4)	4.0 (2.1-6.8)	3.8 (2.0-6.5)	3.6 (1.8-6.3)	3.4 (1.8-6.1)
3	37 (27-49)	25 (18-32)	17 (12-24)	12 (7.6-19)	9.4 (5.3-16)	7.6 (4.0-14)	6.4 (3.2-12)	5.8 (2.7-11)	5.5 (2.5-10)	5.2 (2.4-10)	5.0 (2.3-9.7)
4	51 (36-63)	35 (24-43)	24 (16-31)	18 (12-25)	14 (8.9-20)	11 (6.6-17)	9.2 (5.2-15)	8.3 (4.5-14)	7.8 (4.1-13)	7.4 (3.9-13)	7.2 (3.7-12)
5	65 (55-75)	48 (38-54)	34 (26-38)	25 (19-30)	19 (15-24)	15 (12-20)	13 (9.8-18)	12 (8.4-16)	11 (7.7-16)	10 (7.2-15)	10 (6.8-14)
6	79	62	46	34	26	21	18	16	15	14	14

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

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	8.8	6.2	4.6	3.6	2.9	2.4	2.2	2.1	2.0	1.9
1	20 (18-24)	13 (12-16)	9.3 (7.8-11)	6.9 (5.4-8.4)	5.4 (4.0-6.7)	4.4 (3.1-5.7)	3.6 (2.5-4.9)	3.3 (2.2-4.6)	3.1 (2.0-4.3)	2.9 (1.9-4.1)	2.8 (1.8-3.9)
2	29 (23-38)	20 (16-26)	14 (11-19)	10 (7.2-14)	7.9 (5.1-12)	6.4 (3.9-10)	5.4 (3.0-8.8)	4.9 (2.7-8.2)	4.6 (2.4-7.7)	4.3 (2.2-7.3)	4.1 (2.1-7.0)
3	40 (30-51)	28 (21-36)	20 (14-28)	15 (9.6-23)	12 (6.8-19)	9.3 (5.1-16)	7.8 (4.0-14)	7.1 (3.5-13)	6.6 (3.1-12)	6.2 (2.9-12)	5.9 (2.7-11)
4	54 (40-64)	39 (28-46)	28 (20-36)	21 (15-29)	16 (11-24)	13 (8.5-20)	11 (6.6-18)	10 (5.7-17)	9.3 (5.1-16)	8.8 (4.7-15)	8.3 (4.4-14)
5	68 (59-75)	52 (43-57)	39 (31-44)	29 (23-35)	23 (18-29)	18 (14-24)	15 (12-21)	14 (10-19)	13 (9.1-18)	12 (8.4-17)	12 (7.9-16)
6	80	65	51	39	31	25	21	19	18	17	16

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	16	11	7.9	6.0	4.7	3.8	3.2	2.9	2.7	2.5	2.3
1	23 (21-27)	16 (14-19)	12 (9.8-14)	8.8 (7.0-10)	6.9 (5.1-8.6)	5.6 (4.0-7.3)	4.7 (3.3-6.4)	4.3 (2.9-5.9)	3.9 (2.6-5.5)	3.7 (2.4-5.2)	3.4 (2.2-4.9)
2	33 (27-41)	23 (19-30)	17 (13-22)	13 (9.2-18)	10 (6.6-15)	8.1 (5.0-12)	6.9 (4.0-11)	6.2 (3.5-10)	5.7 (3.1-9.5)	5.3 (2.8-8.9)	5.0 (2.6-8.4)
3	44 (35-53)	33 (26-42)	24 (18-34)	18 (12-27)	14 (8.8-23)	12 (6.6-19)	9.8 (5.3-17)	8.9 (4.5-16)	8.2 (4.0-15)	7.6 (3.7-14)	7.1 (3.4-13)
4	57 (45-65)	44 (33-51)	33 (24-42)	25 (18-34)	20 (14-29)	16 (11-25)	14 (8.5-22)	12 (7.3-20)	11 (6.5-19)	11 (5.9-18)	10 (5.4-17)
5	70 (63-75)	56 (49-61)	44 (37-50)	34 (29-41)	27 (22-34)	22 (18-29)	19 (15-25)	17 (13-23)	16 (11-22)	15 (10-21)	14 (9.4-19)
6	80	68	56	45	36	30	25	23	21	20	18

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

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	18	13	9.8	7.4	5.8	4.7	4.1	3.6	3.3	3.0	2.8
1	26 (24-29)	19 (17-21)	14 (12-16)	11 (8.5-13)	8.5 (6.3-11)	6.8 (4.9-8.9)	5.9 (4.1-8.0)	5.3 (3.6-7.3)	4.8 (3.2-6.8)	4.4 (2.9-6.3)	4.1 (2.6-5.8)
2	36 (31-43)	27 (22-33)	20 (16-26)	15 (11-21)	12 (8.1-17)	9.7 (6.2-15)	8.5 (5.1-13)	7.6 (4.4-12)	6.9 (3.9-11)	6.4 (3.5-10)	5.9 (3.1-9.7)
3	47 (39-55)	36 (29-46)	28 (21-38)	21 (15-31)	17 (11-26)	14 (8.1-22)	12 (6.7-20)	11 (5.7-19)	9.8 (5.0-17)	8.9 (4.5-16)	8.3 (4.1-15)
4	59 (49-65)	47 (37-55)	37 (28-46)	29 (22-39)	23 (17-33)	19 (13-28)	16 (11-25)	15 (9.0-23)	13 (7.9-22)	12 (7.0-20)	11 (6.4-19)
5	69 (64-74)	58 (52-64)	47 (42-54)	38 (33-46)	31 (26-39)	25 (21-33)	22 (17-30)	20 (15-27)	18 (13-25)	17 (12-24)	15 (11-22)
6	78	69	58	48	40	33	29	26	24	22	21

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	21	16	12	9.1	7.1	5.8	5.1	4.5	4.0	3.6	3.3
1	30 (26-35)	22 (19-27)	17 (14-20)	13 (10-15)	10 (7.6-12)	8.1 (6.0-9.6)	7.0 (5.1-8.2)	6.2 (4.4-7.3)	5.5 (3.8-6.6)	4.9 (3.4-5.9)	4.5 (3.1-5.4)
2	40 (33-49)	31 (24-39)	24 (18-30)	18 (13-23)	14 (9.8-18)	11 (7.6-15)	9.6 (6.3-13)	8.4 (5.4-12)	7.5 (4.7-10)	6.7 (4.1-9.3)	6.0 (3.7-8.4)
3	52 (43-63)	42 (32-52)	32 (24-42)	25 (17-34)	19 (13-27)	15 (10-23)	13 (8.3-20)	11 (7.0-17)	10 (6.1-16)	8.9 (5.3-14)	8.1 (4.8-13)
4	64 (56-72)	53 (44-62)	43 (34-52)	34 (26-42)	26 (20-34)	21 (15-29)	18 (13-25)	15 (11-22)	13 (9.3-20)	12 (8.1-18)	11 (7.3-16)
5	74 (68-78)	65 (57-70)	54 (47-61)	44 (37-51)	35 (29-42)	28 (23-35)	24 (20-30)	20 (17-26)	18 (15-23)	16 (13-21)	14 (11-19)
6	80	74	65	55	45	37	31	26	23	20	18

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

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	22	17	13	10	7.7	6.5	5.5	4.8	4.2	3.7	3.3
1	33 (26-49)	25 (20-38)	19 (15-29)	15 (11-21)	11 (8.3-16)	9.2 (6.7-12)	7.7 (5.6-9.5)	6.5 (4.7-7.6)	5.6 (4.0-6.6)	4.9 (3.5-5.9)	4.3 (3.1-5.2)
2	45 (33-61)	36 (25-51)	28 (19-41)	21 (14-31)	16 (11-24)	13 (8.6-18)	11 (7.0-15)	8.9 (5.9-12)	7.6 (5.0-9.9)	6.5 (4.3-8.8)	5.7 (3.7-7.9)
3	57 (42-70)	48 (33-61)	39 (25-51)	30 (19-41)	23 (14-32)	19 (11-26)	15 (9.3-21)	12 (7.7-17)	10 (6.5-14)	8.7 (5.6-12)	7.5 (4.9-10)
4	68 (53-76)	60 (43-70)	51 (34-61)	41 (27-51)	32 (21-41)	26 (17-33)	21 (14-27)	17 (12-22)	14 (9.7-19)	12 (8.4-16)	9.8 (7.3-14)
5	76 (62-81)	70 (54-76)	62 (45-69)	53 (37-60)	44 (29-50)	36 (24-42)	29 (20-34)	23 (17-28)	19 (15-23)	16 (13-20)	13 (11-17)
6	82	78	72	65	56	47	39	32	26	21	17

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	20	16	12	9.3	7.4	6.2	5.3	4.5	3.9	3.4	3.0
1	29 (23-45)	23 (18-36)	18 (13-28)	14 (10-21)	11 (7.9-16)	8.9 (6.4-13)	7.4 (5.3-9.9)	6.2 (4.4-7.9)	5.3 (3.7-6.4)	4.5 (3.2-5.2)	3.9 (2.7-4.5)
2	40 (30-56)	32 (23-47)	26 (18-38)	20 (13-30)	16 (10-23)	13 (8.4-19)	10 (6.8-15)	8.6 (5.6-12)	7.2 (4.7-9.7)	6.1 (4.0-8.0)	5.2 (3.4-6.6)
3	52 (37-66)	43 (30-57)	35 (23-48)	28 (18-39)	22 (14-31)	18 (11-25)	15 (9.1-20)	12 (7.4-17)	9.8 (6.2-14)	8.2 (5.2-11)	6.9 (4.4-9.6)
4	62 (46-72)	55 (38-65)	47 (30-57)	38 (24-48)	31 (19-39)	25 (15-32)	20 (13-26)	17 (11-22)	14 (9.0-18)	11 (7.6-15)	9.2 (6.5-12)
5	72 (55-77)	65 (47-72)	58 (39-65)	49 (32-56)	41 (26-48)	34 (22-40)	28 (18-33)	23 (15-28)	19 (13-23)	15 (11-19)	12 (9.5-16)
6	78	74	68	61	53	45	38	31	25	21	17

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 women from Thailand.

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	17	13	10	8.3	6.9	5.8	5.0	4.3	3.7	3.2	2.7
1	24 (18-37)	19 (14-30)	15 (11-23)	12 (8.5-18)	9.8 (7.0-15)	8.2 (5.8-12)	6.9 (4.8-9.6)	5.8 (4.1-7.8)	5.0 (3.4-6.4)	4.2 (2.9-5.2)	3.6 (2.5-4.3)
2	33 (23-47)	27 (18-39)	22 (14-32)	17 (11-25)	14 (9.2-21)	12 (7.6-17)	9.7 (6.3-14)	8.1 (5.2-11)	6.8 (4.4-9.4)	5.7 (3.7-7.7)	4.9 (3.1-6.4)
3	43 (30-56)	36 (24-48)	30 (19-41)	24 (15-33)	20 (12-28)	16 (10-23)	14 (8.4-19)	11 (6.9-16)	9.4 (5.8-13)	7.8 (4.9-11)	6.6 (4.1-9.2)
4	54 (38-64)	47 (31-57)	39 (25-49)	33 (20-41)	27 (17-35)	23 (14-29)	19 (12-24)	16 (9.8-20)	13 (8.2-17)	11 (6.9-14)	8.9 (5.9-12)
5	64 (46-70)	57 (39-64)	50 (33-57)	43 (27-49)	37 (22-43)	31 (19-37)	26 (16-31)	22 (14-26)	18 (12-22)	15 (9.9-18)	12 (8.5-15)
6	72	67	61	54	47	41	35	29	24	20	17

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	9.8	7.8	6.3	5.4	4.5	3.9	3.3	2.8	2.4	2.0
1	18 (13-27)	14 (10-22)	11 (8.1-18)	9.2 (6.5-14)	7.7 (5.4-12)	6.5 (4.6-9.6)	5.5 (3.8-7.9)	4.6 (3.2-6.5)	3.9 (2.7-5.3)	3.3 (2.3-4.4)	2.8 (1.9-3.6)
2	25 (17-36)	20 (13-30)	16 (11-24)	13 (8.6-20)	11 (7.2-17)	9.3 (6.0-14)	7.8 (5.0-12)	6.6 (4.2-9.5)	5.5 (3.5-7.9)	4.6 (3.0-6.6)	3.9 (2.5-5.4)
3	33 (22-45)	28 (18-38)	23 (14-32)	19 (12-27)	16 (9.6-22)	13 (8.0-19)	11 (6.7-16)	9.3 (5.6-13)	7.8 (4.7-11)	6.5 (3.9-9.2)	5.4 (3.3-7.7)
4	43 (29-53)	37 (24-47)	31 (19-40)	26 (16-34)	22 (13-29)	19 (11-24)	16 (9.4-21)	13 (8.0-17)	11 (6.7-15)	9.2 (5.7-12)	7.6 (4.8-10)
5	54 (36-61)	48 (31-54)	41 (26-48)	35 (21-42)	31 (18-36)	26 (16-31)	22 (13-27)	19 (11-23)	16 (9.5-19)	13 (8.1-16)	11 (6.9-13)
6	63	58	52	46	41	35	30	26	22	18	15

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