FRAX ® WHO Fracture Risk Assessment Tool

Singapore (Malay) - The probabilities of a hip fracture in men

The following tables give the 10-year probability (%) of a hip 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 Singapore (Malay). 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	8.5	4.6	2.4	1.3	0.7	0.4	0.2	0.1	0.1	0.0	0.0
1	13 (8.9-17)	7.2 (4.8-9.5)	3.9 (2.5-5.1)	2.0 (1.3-2.7)	1.1 (0.7-1.4)	0.6 (0.4-0.8)	0.3 (0.2-0.4)	0.2 (0.1-0.2)	0.1 (0.1-0.1)	0.0 (0.0-0.1)	0.0 (0.0-0.0)
2	20 (12-29)	11 (6.8-17)	6.1 (3.6-9.1)	3.2 (1.9-4.9)	1.7 (1.0-2.6)	0.9 (0.5-1.4)	0.5 (0.3-0.7)	0.2 (0.1-0.4)	0.1 (0.1-0.2)	0.1 (0.0-0.1)	0.0 (0.0-0.1)
3	29 (18-43)	17 (10-26)	9.4 (5.4-15)	5.1 (2.9-8.1)	2.7 (1.5-4.4)	1.4 (0.8-2.3)	0.7 (0.4-1.2)	0.4 (0.2-0.6)	0.2 (0.1-0.3)	0.1 (0.1-0.2)	0.1 (0.0-0.1)
4	41 (29-56)	25 (16-37)	14 (9.0-22)	7.8 (4.8-12)	4.2 (2.6-6.6)	2.2 (1.4-3.5)	1.2 (0.7-1.9)	0.6 (0.4-1.0)	0.3 (0.2-0.5)	0.2 (0.1-0.3)	0.1 (0.1-0.2)
5	55 (45-68)	36 (28-47)	21 (16-29)	12 (8.6-17)	6.4 (4.6-9.2)	3.4 (2.5-4.9)	1.8 (1.3-2.6)	0.9 (0.7-1.4)	0.5 (0.4-0.7)	0.3 (0.2-0.4)	0.1 (0.1-0.2)
6	69	49	30	17	9.6	5.2	2.8	1.5	0.8	0.4	0.2

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

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	12	6.7	3.7	2.1	1.1	0.6	0.3	0.2	0.1	0.1	0.0
1	18 (13-22)	10 (7.1-13)	5.8 (3.9-7.2)	3.2 (2.2-4.0)	1.8 (1.2-2.2)	1.0 (0.6-1.2)	0.5 (0.4-0.7)	0.3 (0.2-0.4)	0.2 (0.1-0.2)	0.1 (0.1-0.1)	0.1 (0.0-0.1)
2	26 (17-36)	16 (9.9-22)	8.9 (5.5-13)	5.0 (3.1-7.2)	2.7 (1.7-4.0)	1.5 (0.9-2.2)	0.8 (0.5-1.2)	0.4 (0.3-0.7)	0.3 (0.2-0.4)	0.1 (0.1-0.2)	0.1 (0.1-0.1)
3	37 (25-49)	23 (15-32)	13 (8.3-20)	7.6 (4.6-11)	4.2 (2.6-6.5)	2.3 (1.4-3.6)	1.3 (0.8-2.0)	0.7 (0.4-1.1)	0.4 (0.2-0.6)	0.2 (0.1-0.4)	0.1 (0.1-0.2)
4	49 (37-62)	32 (23-44)	20 (13-28)	11 (7.6-17)	6.4 (4.2-9.7)	3.6 (2.3-5.4)	2.0 (1.3-3.0)	1.1 (0.7-1.7)	0.6 (0.4-0.9)	0.3 (0.2-0.5)	0.2 (0.1-0.3)
5	62 (54-72)	44 (36-55)	28 (22-37)	17 (13-23)	9.6 (7.4-13)	5.4 (4.2-7.6)	3.0 (2.3-4.3)	1.6 (1.3-2.4)	0.9 (0.7-1.3)	0.5 (0.4-0.8)	0.3 (0.2-0.4)
6	74	57	38	24	14	8.0	4.5	2.5	1.4	0.8	0.5

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	15	8.9	5.3	3.1	1.8	1.1	0.6	0.4	0.2	0.1	0.1
1	21 (15-25)	13 (9.3-15)	7.9 (5.5-9.3)	4.7 (3.2-5.5)	2.8 (1.9-3.3)	1.6 (1.1-1.9)	0.9 (0.6-1.1)	0.5 (0.4-0.6)	0.3 (0.2-0.4)	0.2 (0.1-0.2)	0.1 (0.1-0.1)
2	30 (21-38)	19 (13-25)	12 (7.7-16)	7.1 (4.6-9.6)	4.2 (2.7-5.7)	2.4 (1.6-3.4)	1.4 (0.9-2.0)	0.8 (0.5-1.2)	0.5 (0.3-0.7)	0.3 (0.2-0.4)	0.2 (0.1-0.3)
3	40 (30-51)	27 (19-36)	17 (12-23)	10 (6.9-15)	6.2 (4.1-8.9)	3.7 (2.4-5.3)	2.2 (1.4-3.2)	1.3 (0.8-1.9)	0.8 (0.5-1.1)	0.5 (0.3-0.7)	0.3 (0.2-0.4)
4	51 (42-62)	36 (28-47)	24 (18-33)	15 (11-21)	9.2 (6.5-13)	5.5 (3.9-8.0)	3.2 (2.3-4.8)	1.9 (1.3-2.8)	1.1 (0.8-1.7)	0.7 (0.5-1.0)	0.4 (0.3-0.6)
5	63 (57-71)	47 (42-57)	33 (28-42)	21 (18-28)	13 (11-18)	8.1 (6.6-11)	4.8 (3.9-6.7)	2.8 (2.3-4.0)	1.7 (1.4-2.4)	1.0 (0.9-1.5)	0.6 (0.5-0.9)
6	72	59	44	30	19	12	7.0	4.2	2.5	1.5	0.9

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

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	16	10	6.3	3.9	2.4	1.5	0.9	0.6	0.4	0.2	0.2
1	22 (16-24)	14 (10-16)	9.2 (6.6-11)	5.8 (4.1-6.7)	3.6 (2.6-4.2)	2.3 (1.6-2.6)	1.4 (1.0-1.6)	0.9 (0.6-1.0)	0.6 (0.4-0.7)	0.4 (0.3-0.4)	0.2 (0.2-0.3)
2	30 (22-37)	20 (14-25)	13 (9.2-17)	8.5 (5.8-11)	5.4 (3.6-6.9)	3.3 (2.2-4.3)	2.1 (1.4-2.7)	1.3 (0.9-1.7)	0.8 (0.6-1.1)	0.5 (0.4-0.7)	0.3 (0.2-0.4)
3	39 (31-48)	28 (21-35)	19 (14-24)	12 (8.7-16)	7.8 (5.5-10)	4.9 (3.4-6.7)	3.1 (2.1-4.2)	1.9 (1.3-2.7)	1.2 (0.8-1.7)	0.8 (0.5-1.1)	0.5 (0.3-0.7)
4	49 (42-58)	37 (30-46)	26 (20-33)	17 (13-23)	11 (8.5-15)	7.1 (5.4-9.9)	4.5 (3.4-6.3)	2.8 (2.1-4.0)	1.8 (1.4-2.6)	1.2 (0.9-1.7)	0.7 (0.6-1.1)
5	59 (55-67)	47 (42-55)	34 (31-42)	24 (21-30)	16 (14-21)	10 (8.8-14)	6.5 (5.6-8.8)	4.1 (3.5-5.7)	2.7 (2.3-3.7)	1.7 (1.4-2.4)	1.1 (0.9-1.5)
6	68	57	44	32	22	14	9.3	5.9	3.9	2.5	1.6

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	9.2	6.2	4.1	2.7	1.8	1.2	0.8	0.5	0.4	0.2
1	21 (19-26)	14 (13-18)	9.8 (8.6-13)	6.6 (5.7-8.5)	4.4 (3.8-5.7)	2.9 (2.5-3.7)	1.9 (1.6-2.5)	1.3 (1.1-1.6)	0.9 (0.7-1.1)	0.6 (0.5-0.8)	0.4 (0.3-0.5)
2	31 (26-38)	22 (18-28)	15 (13-20)	10 (8.6-14)	7.0 (5.7-9.3)	4.7 (3.8-6.2)	3.1 (2.5-4.1)	2.1 (1.7-2.8)	1.4 (1.1-1.9)	0.9 (0.8-1.3)	0.6 (0.5-0.9)
3	42 (36-49)	32 (26-38)	23 (18-28)	16 (13-20)	11 (8.6-14)	7.4 (5.8-9.4)	5.0 (3.8-6.3)	3.3 (2.6-4.3)	2.3 (1.7-2.9)	1.5 (1.2-2.0)	1.0 (0.8-1.3)
4	55 (47-61)	44 (36-50)	33 (26-38)	24 (19-28)	17 (13-20)	12 (8.7-14)	7.9 (5.8-9.4)	5.4 (4.0-6.4)	3.7 (2.7-4.4)	2.5 (1.8-3.0)	1.7 (1.2-2.1)
5	66 (58-69)	56 (48-59)	45 (37-48)	34 (28-37)	25 (20-28)	18 (14-20)	12 (9.4-14)	8.5 (6.4-9.5)	5.9 (4.4-6.6)	4.0 (3.0-4.6)	2.7 (2.1-3.1)
6	74	67	57	46	36	26	19	13	9.2	6.4	4.4

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

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	11	7.8	5.5	3.9	2.7	1.9	1.3	0.9	0.7	0.5	0.3
1	19 (15-37)	14 (11-28)	10 (7.7-21)	7.3 (5.5-15)	5.2 (3.8-11)	3.6 (2.7-7.9)	2.5 (1.9-5.6)	1.8 (1.3-4.0)	1.3 (0.9-2.9)	0.9 (0.7-2.1)	0.7 (0.5-1.5)
2	30 (20-48)	23 (15-39)	17 (11-30)	13 (7.7-23)	9.2 (5.4-17)	6.6 (3.8-12)	4.6 (2.6-8.8)	3.4 (1.9-6.4)	2.4 (1.4-4.7)	1.7 (1.0-3.4)	1.2 (0.7-2.4)
3	42 (27-58)	34 (20-49)	27 (15-40)	21 (11-32)	15 (7.8-24)	11 (5.5-18)	8.0 (3.9-13)	5.9 (2.8-9.6)	4.3 (2.0-7.0)	3.1 (1.5-5.1)	2.2 (1.0-3.7)
4	55 (36-66)	47 (28-58)	39 (21-50)	31 (16-40)	24 (11-32)	18 (8.2-24)	13 (5.8-18)	9.8 (4.2-13)	7.2 (3.1-9.9)	5.3 (2.2-7.3)	3.8 (1.6-5.3)
5	67 (46-73)	60 (38-66)	52 (30-58)	44 (23-50)	35 (17-40)	27 (12-32)	21 (9.0-24)	16 (6.6-18)	12 (4.8-14)	8.8 (3.5-10)	6.4 (2.5-7.5)
6	76	71	64	57	48	39	31	24	19	14	10

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	8.7	6.5	4.9	3.6	2.7	2.0	1.4	1.1	0.8	0.6	0.5
1	15 (11-30)	12 (8.5-24)	8.9 (6.3-19)	6.7 (4.7-14)	5.0 (3.5-11)	3.7 (2.6-8.1)	2.8 (1.9-6.1)	2.1 (1.4-4.7)	1.6 (1.1-3.5)	1.2 (0.8-2.7)	0.9 (0.6-2.0)
2	24 (15-40)	19 (11-33)	15 (8.6-26)	11 (6.5-21)	8.6 (4.9-16)	6.5 (3.6-12)	4.9 (2.7-9.3)	3.7 (2.0-7.2)	2.9 (1.5-5.5)	2.2 (1.2-4.2)	1.6 (0.9-3.2)
3	34 (20-50)	28 (16-43)	23 (12-35)	18 (9.0-29)	14 (6.8-23)	11 (5.1-18)	8.2 (3.8-14)	6.4 (2.9-11)	4.9 (2.2-8.3)	3.7 (1.7-6.4)	2.9 (1.3-4.9)
4	46 (27-58)	39 (21-51)	33 (17-44)	27 (13-37)	22 (9.9-30)	17 (7.5-24)	13 (5.7-19)	10 (4.4-15)	8.0 (3.3-11)	6.2 (2.5-8.9)	4.8 (1.9-6.8)
5	58 (36-64)	51 (29-58)	45 (24-51)	38 (19-43)	31 (14-36)	25 (11-29)	20 (8.5-24)	16 (6.6-19)	13 (5.1-15)	9.9 (3.9-12)	7.7 (3.0-9.4)
6	68	63	57	50	43	36	29	24	19	15	12

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

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	6.4	5.0	3.9	3.0	2.3	1.8	1.4	1.1	0.9	0.7	0.6
1	11 (8.3-23)	9.0 (6.5-19)	7.1 (5.1-15)	5.6 (3.9-12)	4.4 (3.1-9.6)	3.4 (2.4-7.5)	2.7 (1.9-6.0)	2.1 (1.5-4.8)	1.7 (1.2-3.8)	1.4 (0.9-3.1)	1.1 (0.7-2.4)
2	18 (11-32)	15 (8.7-27)	12 (6.9-22)	9.6 (5.4-18)	7.6 (4.2-14)	6.0 (3.3-11)	4.7 (2.6-9.0)	3.8 (2.1-7.3)	3.1 (1.7-5.9)	2.4 (1.3-4.7)	1.9 (1.1-3.8)
3	27 (15-41)	23 (12-35)	19 (9.5-30)	15 (7.5-25)	12 (5.9-20)	9.9 (4.6-16)	7.9 (3.7-13)	6.4 (2.9-11)	5.2 (2.3-8.7)	4.2 (1.9-7.1)	3.3 (1.5-5.7)
4	38 (21-50)	33 (17-44)	28 (14-38)	23 (11-32)	19 (8.6-27)	16 (6.8-22)	13 (5.4-18)	10 (4.4-15)	8.4 (3.5-12)	6.9 (2.8-9.8)	5.5 (2.3-7.9)
5	50 (28-56)	44 (24-50)	39 (19-44)	33 (16-38)	28 (13-32)	23 (10-27)	19 (8.1-23)	16 (6.6-19)	13 (5.3-16)	11 (4.3-13)	8.8 (3.4-11)
6	61	56	51	45	39	33	28	24	20	17	14

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	3.9	3.1	2.6	2.1	1.7	1.4	1.1	0.9	0.8	0.7	0.6
1	7.0 (5.0-15)	5.8 (4.1-13)	4.7 (3.4-10)	3.9 (2.7-8.6)	3.2 (2.2-7.1)	2.6 (1.8-5.8)	2.1 (1.5-4.8)	1.8 (1.2-4.0)	1.5 (1.0-3.4)	1.3 (0.9-2.8)	1.0 (0.7-2.4)
2	12 (6.7-22)	9.8 (5.5-18)	8.1 (4.5-15)	6.7 (3.7-13)	5.5 (3.0-10)	4.5 (2.5-8.6)	3.8 (2.0-7.2)	3.2 (1.7-6.1)	2.7 (1.4-5.1)	2.2 (1.2-4.3)	1.9 (1.0-3.6)
3	19 (9.3-29)	16 (7.7-25)	13 (6.3-21)	11 (5.2-18)	9.1 (4.2-15)	7.5 (3.5-13)	6.4 (2.9-11)	5.4 (2.4-9.0)	4.5 (2.0-7.6)	3.8 (1.7-6.5)	3.2 (1.4-5.4)
4	27 (13-37)	24 (11-32)	20 (9.1-28)	17 (7.5-24)	14 (6.2-20)	12 (5.1-17)	10 (4.3-15)	8.7 (3.6-12)	7.4 (3.0-11)	6.2 (2.6-9.0)	5.3 (2.1-7.6)
5	38 (19-44)	33 (16-39)	29 (13-34)	25 (11-29)	22 (9.2-25)	18 (7.6-22)	16 (6.4-19)	14 (5.4-16)	12 (4.6-14)	9.9 (3.9-12)	8.4 (3.2-10)
6	50	45	40	35	31	27	23	20	18	15	13