FRAX® WHO Fracture Risk Assessment Tool

Australia - 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 Australia. 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	7.0	3.7	2.0	1.0	0.5	0.3	0.2	0.1	0.0	0.0	0.0
1	11 (7.4-14)	6.0 (3.9-7.8)	3.2 (2.1-4.2)	1.7 (1.1-2.2)	0.9 (0.6-1.2)	0.5 (0.3-0.6)	0.2 (0.2-0.3)	0.1 (0.1-0.2)	0.1 (0.0-0.1)	0.0 (0.0-0.1)	0.0 (0.0-0.0)
2	17 (10-25)	9.4 (5.5-14)	5.0 (2.9-7.6)	2.7 (1.5-4.1)	1.4 (0.8-2.1)	0.7 (0.4-1.1)	0.4 (0.2-0.6)	0.2 (0.1-0.3)	0.1 (0.1-0.2)	0.1 (0.0-0.1)	0.0 (0.0-0.1)
3	25 (15-38)	14 (8.3-23)	7.8 (4.4-13)	4.2 (2.3-6.8)	2.2 (1.2-3.6)	1.2 (0.6-1.9)	0.6 (0.3-1.0)	0.3 (0.2-0.5)	0.2 (0.1-0.3)	0.1 (0.1-0.2)	0.0 (0.0-0.1)
4	37 (25-52)	22 (14-32)	12 (7.5-19)	6.5 (4.0-10)	3.5 (2.1-5.5)	1.8 (1.1-2.9)	1.0 (0.6-1.5)	0.5 (0.3-0.8)	0.3 (0.2-0.4)	0.1 (0.1-0.2)	0.1 (0.1-0.1)
5	50 (40-64)	31 (24-42)	18 (13-25)	9.9 (7.3-14)	5.3 (3.9-7.7)	2.8 (2.1-4.1)	1.5 (1.1-2.2)	0.8 (0.6-1.1)	0.4 (0.3-0.6)	0.2 (0.2-0.3)	0.1 (0.1-0.2)
6	66	44	26	15	8.1	4.3	2.3	1.2	0.6	0.4	0.2

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

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	7.6	4.2	2.3	1.3	0.7	0.4	0.2	0.1	0.1	0.0	0.0
1	12 (8.0-14)	6.6 (4.4-8.1)	3.6 (2.4-4.5)	2.0 (1.3-2.5)	1.1 (0.7-1.4)	0.6 (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)	0.0 (0.0-0.0)
2	18 (11-25)	10 (6.2-14)	5.7 (3.4-8.2)	3.1 (1.9-4.5)	1.7 (1.0-2.5)	0.9 (0.6-1.4)	0.5 (0.3-0.7)	0.3 (0.2-0.4)	0.2 (0.1-0.2)	0.1 (0.1-0.1)	0.0 (0.0-0.1)
3	26 (17-38)	15 (9.4-23)	8.7 (5.2-13)	4.8 (2.9-7.6)	2.7 (1.6-4.2)	1.5 (0.9-2.3)	0.8 (0.5-1.3)	0.4 (0.3-0.7)	0.2 (0.1-0.4)	0.1 (0.1-0.2)	0.1 (0.0-0.1)
4	37 (26-51)	23 (15-33)	13 (8.7-20)	7.4 (4.8-11)	4.1 (2.7-6.3)	2.3 (1.5-3.5)	1.2 (0.8-1.9)	0.7 (0.4-1.1)	0.4 (0.2-0.6)	0.2 (0.1-0.3)	0.1 (0.1-0.2)
5	50 (42-63)	32 (26-43)	19 (15-27)	11 (8.7-16)	6.2 (4.8-8.9)	3.4 (2.7-4.9)	1.9 (1.5-2.7)	1.0 (0.8-1.5)	0.6 (0.4-0.8)	0.3 (0.3-0.5)	0.2 (0.1-0.3)
6	64	44	28	16	9.3	5.2	2.9	1.6	0.9	0.5	0.3

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	8.0	4.7	2.7	1.6	0.9	0.5	0.3	0.2	0.1	0.1	0.0
1	12 (8.4-14)	7.2 (4.9-8.4)	4.2 (2.9-4.9)	2.5 (1.7-2.9)	1.4 (1.0-1.7)	0.8 (0.6-1.0)	0.5 (0.3-0.6)	0.3 (0.2-0.3)	0.2 (0.1-0.2)	0.1 (0.1-0.1)	0.1 (0.0-0.1)
2	18 (12-24)	11 (6.9-15)	6.4 (4.1-8.8)	3.8 (2.4-5.2)	2.2 (1.4-3.0)	1.3 (0.8-1.8)	0.7 (0.5-1.0)	0.4 (0.3-0.6)	0.3 (0.2-0.4)	0.2 (0.1-0.2)	0.1 (0.1-0.1)
3	26 (17-35)	16 (10-23)	9.6 (6.2-14)	5.7 (3.6-8.5)	3.4 (2.1-5.0)	2.0 (1.2-2.9)	1.1 (0.7-1.7)	0.7 (0.4-1.0)	0.4 (0.2-0.6)	0.2 (0.1-0.4)	0.1 (0.1-0.2)
4	36 (27-48)	23 (17-32)	14 (10-21)	8.5 (6.0-13)	5.1 (3.5-7.5)	3.0 (2.0-4.4)	1.7 (1.2-2.6)	1.0 (0.7-1.5)	0.6 (0.4-0.9)	0.4 (0.2-0.5)	0.2 (0.2-0.3)
5	48 (42-59)	32 (28-42)	21 (17-28)	13 (10-17)	7.5 (6.2-11)	4.4 (3.7-6.3)	2.6 (2.1-3.7)	1.5 (1.2-2.1)	0.9 (0.7-1.3)	0.5 (0.5-0.8)	0.3 (0.3-0.5)
6	61	44	29	18	11	6.6	3.9	2.3	1.4	0.8	0.5

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

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	9.2	5.8	3.6	2.2	1.4	0.8	0.5	0.3	0.2	0.1	0.1
1	13 (9.6-16)	8.6 (6.0-10)	5.4 (3.8-6.3)	3.3 (2.3-3.9)	2.1 (1.4-2.4)	1.3 (0.9-1.5)	0.8 (0.5-0.9)	0.5 (0.3-0.6)	0.3 (0.2-0.4)	0.2 (0.1-0.2)	0.1 (0.1-0.2)
2	19 (13-24)	13 (8.5-16)	7.9 (5.3-10)	5.0 (3.3-6.5)	3.1 (2.0-4.0)	1.9 (1.2-2.5)	1.2 (0.8-1.5)	0.7 (0.5-1.0)	0.5 (0.3-0.6)	0.3 (0.2-0.4)	0.2 (0.1-0.2)
3	27 (20-35)	18 (13-24)	12 (8.0-16)	7.3 (5.0-10)	4.6 (3.1-6.4)	2.8 (1.9-4.0)	1.8 (1.2-2.5)	1.1 (0.7-1.6)	0.7 (0.5-1.0)	0.4 (0.3-0.6)	0.3 (0.2-0.4)
4	37 (29-47)	25 (20-34)	17 (13-23)	11 (8.0-15)	6.7 (5.0-9.6)	4.2 (3.1-6.1)	2.6 (1.9-3.8)	1.6 (1.2-2.4)	1.0 (0.8-1.5)	0.7 (0.5-1.0)	0.4 (0.3-0.6)
5	47 (43-57)	34 (30-43)	23 (20-30)	15 (13-20)	9.8 (8.2-13)	6.1 (5.2-8.5)	3.8 (3.2-5.3)	2.4 (2.0-3.4)	1.5 (1.3-2.1)	1.0 (0.8-1.4)	0.6 (0.5-0.9)
6	59	45	32	21	14	8.9	5.6	3.5	2.3	1.4	0.9

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	11	7.5	5.0	3.3	2.1	1.4	0.9	0.6	0.4	0.3	0.2
1	18 (16-22)	12 (10-15)	8.1 (7.0-10)	5.4 (4.6-6.9)	3.5 (3.0-4.5)	2.3 (2.0-3.0)	1.5 (1.3-1.9)	1.0 (0.9-1.3)	0.7 (0.6-0.9)	0.5 (0.4-0.6)	0.3 (0.3-0.4)
2	27 (22-34)	19 (15-24)	13 (10-17)	8.6 (6.9-11)	5.7 (4.6-7.7)	3.8 (3.0-5.1)	2.5 (2.0-3.4)	1.7 (1.3-2.3)	1.1 (0.9-1.5)	0.8 (0.6-1.0)	0.5 (0.4-0.7)
3	38 (32-45)	28 (23-34)	20 (16-25)	14 (11-17)	9.2 (7.0-12)	6.1 (4.6-7.8)	4.0 (3.0-5.2)	2.7 (2.0-3.5)	1.8 (1.4-2.4)	1.2 (0.9-1.6)	0.8 (0.6-1.1)
4	51 (43-57)	40 (32-46)	29 (23-34)	21 (16-24)	14 (11-17)	9.8 (7.2-12)	6.5 (4.8-7.9)	4.4 (3.2-5.4)	3.0 (2.2-3.7)	2.0 (1.5-2.5)	1.4 (1.0-1.7)
5	63 (56-67)	53 (45-56)	41 (34-45)	31 (25-34)	22 (17-24)	15 (12-17)	10 (8.0-12)	7.1 (5.4-8.0)	4.8 (3.7-5.5)	3.3 (2.5-3.8)	2.2 (1.7-2.6)
6	73	65	54	43	32	23	16	11	7.7	5.3	3.6

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

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	13	8.9	6.3	4.4	3.1	2.1	1.5	1.0	0.7	0.5	0.4
1	22 (17-41)	16 (12-32)	12 (8.8-24)	8.3 (6.2-17)	5.9 (4.3-13)	4.1 (3.0-8.9)	2.9 (2.1-6.2)	2.1 (1.5-4.5)	1.5 (1.1-3.2)	1.0 (0.8-2.3)	0.7 (0.5-1.6)
2	34 (23-53)	26 (17-44)	20 (12-34)	15 (8.7-26)	11 (6.1-20)	7.5 (4.3-14)	5.3 (3.0-10)	3.8 (2.1-7.4)	2.7 (1.5-5.3)	2.0 (1.1-3.8)	1.4 (0.8-2.8)
3	47 (31-63)	39 (24-55)	31 (17-45)	24 (13-36)	18 (9.0-28)	13 (6.4-20)	9.2 (4.5-15)	6.7 (3.2-11)	4.9 (2.3-8.0)	3.5 (1.6-5.8)	2.5 (1.2-4.2)
4	60 (41-71)	52 (33-64)	44 (25-55)	35 (18-45)	27 (13-36)	21 (9.5-28)	15 (6.7-21)	11 (4.8-16)	8.3 (3.5-12)	6.0 (2.5-8.5)	4.4 (1.8-6.2)
5	71 (52-77)	65 (43-71)	57 (34-64)	49 (27-55)	40 (20-45)	31 (15-36)	24 (11-27)	18 (7.7-21)	14 (5.6-16)	10 (4.1-12)	7.4 (3.0-8.7)
6	79	75	69	62	54	44	35	28	21	16	12

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	11	8.6	6.4	4.8	3.5	2.6	1.9	1.4	1.1	0.8	0.6
1	19 (15-38)	15 (11-30)	12 (8.4-24)	8.8 (6.2-19)	6.6 (4.6-14)	4.9 (3.4-11)	3.6 (2.5-8.0)	2.8 (1.9-6.1)	2.1 (1.4-4.6)	1.6 (1.1-3.5)	1.2 (0.8-2.7)
2	30 (19-48)	24 (15-41)	19 (11-33)	15 (8.6-26)	11 (6.5-21)	8.5 (4.8-16)	6.4 (3.5-12)	4.9 (2.7-9.5)	3.8 (2.0-7.3)	2.9 (1.5-5.6)	2.2 (1.2-4.3)
3	42 (26-58)	35 (20-51)	29 (16-43)	23 (12-36)	18 (9.0-29)	14 (6.8-23)	11 (5.1-18)	8.4 (3.9-14)	6.4 (2.9-11)	4.9 (2.2-8.4)	3.8 (1.7-6.4)
4	54 (34-66)	47 (28-59)	40 (22-52)	33 (17-44)	27 (13-37)	22 (10-30)	17 (7.6-24)	13 (5.8-19)	11 (4.4-15)	8.2 (3.4-12)	6.3 (2.6-9.0)
5	65 (44-71)	59 (37-65)	52 (30-59)	45 (24-51)	38 (19-44)	32 (15-37)	26 (11-30)	21 (8.8-25)	16 (6.8-20)	13 (5.2-16)	10 (4.0-12)
6	75	70	64	58	51	43	36	30	25	20	16

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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 Australia.

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	9.0	7.1	5.6	4.4	3.4	2.7	2.1	1.7	1.3	1.1	0.9
1	15 (12-30)	12 (9.2-25)	9.9 (7.3-21)	7.9 (5.7-17)	6.3 (4.5-14)	4.9 (3.5-11)	3.9 (2.8-8.7)	3.2 (2.2-7.0)	2.5 (1.8-5.7)	2.0 (1.4-4.6)	1.6 (1.1-3.7)
2	24 (15-40)	20 (12-34)	16 (9.4-29)	13 (7.5-24)	11 (5.9-19)	8.4 (4.7-16)	6.8 (3.7-13)	5.5 (3.0-10)	4.4 (2.4-8.4)	3.6 (1.9-6.8)	2.9 (1.5-5.5)
3	34 (20-49)	29 (16-43)	24 (13-37)	20 (10-31)	17 (8.2-26)	13 (6.5-22)	11 (5.2-18)	9.0 (4.2-15)	7.4 (3.4-12)	6.0 (2.7-10)	4.9 (2.2-8.2)
4	45 (26-57)	40 (22-51)	34 (18-45)	29 (14-39)	25 (12-34)	20 (9.2-28)	17 (7.5-24)	14 (6.1-20)	12 (4.9-17)	9.6 (4.0-14)	7.8 (3.2-11)
5	57 (35-63)	51 (30-58)	46 (25-52)	40 (20-46)	35 (17-40)	29 (13-34)	25 (11-29)	21 (9.0-25)	18 (7.3-21)	15 (6.0-17)	12 (4.8-15)
6	67	63	57	52	46	40	35	30	26	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	6.6	5.4	4.4	3.6	3.0	2.4	2.0	1.7	1.4	1.2	1.0
1	12 (8.5-24)	9.6 (7.0-20)	8.0 (5.8-17)	6.6 (4.8-14)	5.5 (3.9-12)	4.5 (3.2-9.9)	3.8 (2.7-8.4)	3.2 (2.2-7.1)	2.7 (1.9-6.0)	2.3 (1.6-5.1)	1.9 (1.3-4.3)
2	18 (11-32)	16 (9.1-28)	13 (7.5-24)	11 (6.2-20)	9.2 (5.1-17)	7.7 (4.2-14)	6.5 (3.5-12)	5.5 (3.0-10)	4.7 (2.5-8.9)	3.9 (2.1-7.5)	3.3 (1.8-6.4)
3	27 (15-40)	24 (12-36)	20 (10-31)	17 (8.6-27)	15 (7.1-23)	12 (5.9-20)	11 (5.0-17)	9.0 (4.2-15)	7.7 (3.5-13)	6.6 (3.0-11)	5.6 (2.5-9.3)
4	37 (20-49)	33 (17-44)	29 (14-39)	25 (12-35)	22 (10-30)	19 (8.4-26)	16 (7.1-23)	14 (6.0-20)	12 (5.1-17)	10 (4.3-15)	8.9 (3.7-13)
5	49 (28-55)	44 (24-50)	40 (20-46)	35 (17-41)	31 (15-36)	27 (12-32)	24 (10-28)	21 (9.0-25)	18 (7.6-22)	16 (6.5-19)	14 (5.5-16)
6	59	55	51	47	42	38	34	30	27	23	20