FRAX® WHO Fracture Risk Assessment Tool

Iceland - The probabilities of a hip fracture in women

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 Iceland. 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	16	8.4	4.4	2.3	1.2	0.6	0.3	0.2	0.1	0.0	0.0
1	24 (17-31)	13 (8.8-17)	7.0 (4.6-9.1)	3.6 (2.4-4.8)	1.9 (1.2-2.4)	1.0 (0.6-1.3)	0.5 (0.3-0.6)	0.3 (0.2-0.3)	0.1 (0.1-0.2)	0.1 (0.1-0.1)	0.0 (0.0-0.1)
2	36 (23-50)	20 (12-30)	11 (6.5-16)	5.8 (3.4-8.8)	3.0 (1.7-4.6)	1.5 (0.9-2.4)	0.8 (0.5-1.2)	0.4 (0.2-0.6)	0.2 (0.1-0.3)	0.1 (0.1-0.2)	0.1 (0.0-0.1)
3	50 (33-69)	30 (18-46)	17 (9.7-27)	9.1 (5.1-15)	4.7 (2.6-7.8)	2.4 (1.3-4.1)	1.2 (0.7-2.1)	0.7 (0.4-1.1)	0.3 (0.2-0.6)	0.2 (0.1-0.3)	0.1 (0.1-0.2)
4	66 (49-83)	43 (29-60)	25 (16-38)	14 (8.7-22)	7.4 (4.5-12)	3.8 (2.3-6.1)	2.0 (1.2-3.2)	1.0 (0.6-1.7)	0.5 (0.3-0.9)	0.3 (0.2-0.5)	0.2 (0.1-0.2)
5	81 (72-91)	58 (48-73)	37 (28-49)	21 (16-29)	11 (8.3-16)	5.9 (4.3-8.6)	3.1 (2.2-4.5)	1.6 (1.2-2.4)	0.8 (0.6-1.3)	0.4 (0.3-0.7)	0.2 (0.2-0.4)
6	92	75	51	30	17	9.0	4.7	2.5	1.3	0.7	0.4

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

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	16	9.1	5.0	2.7	1.5	0.8	0.4	0.2	0.1	0.1	0.0
1	25 (17-29)	14 (9.5-17)	7.8 (5.2-9.6)	4.3 (2.8-5.2)	2.3 (1.5-2.8)	1.2 (0.8-1.5)	0.7 (0.4-0.8)	0.4 (0.2-0.5)	0.2 (0.1-0.3)	0.1 (0.1-0.1)	0.1 (0.0-0.1)
2	36 (23-48)	21 (13-30)	12 (7.3-17)	6.7 (4.0-9.6)	3.6 (2.2-5.3)	2.0 (1.2-2.9)	1.1 (0.6-1.5)	0.6 (0.4-0.9)	0.3 (0.2-0.5)	0.2 (0.1-0.3)	0.1 (0.1-0.2)
3	49 (33-67)	31 (20-45)	18 (11-28)	10 (6.0-16)	5.7 (3.3-9.0)	3.1 (1.8-4.9)	1.7 (1.0-2.7)	0.9 (0.5-1.5)	0.5 (0.3-0.8)	0.3 (0.2-0.5)	0.2 (0.1-0.3)
4	64 (50-81)	44 (31-60)	27 (18-39)	16 (10-23)	8.7 (5.6-13)	4.7 (3.1-7.4)	2.6 (1.7-4.0)	1.4 (0.9-2.3)	0.8 (0.5-1.3)	0.4 (0.3-0.7)	0.2 (0.2-0.4)
5	79 (72-89)	58 (50-72)	38 (31-50)	23 (18-32)	13 (10-18)	7.2 (5.7-10)	3.9 (3.1-5.7)	2.2 (1.7-3.2)	1.2 (1.0-1.8)	0.7 (0.5-1.0)	0.4 (0.3-0.6)
6	90	74	52	33	19	11	6.0	3.4	1.9	1.1	0.6

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	18	10	5.9	3.3	1.9	1.0	0.6	0.3	0.2	0.1	0.1
1	26 (19-30)	16 (11-18)	9.1 (6.2-11)	5.1 (3.5-6.1)	2.9 (2.0-3.5)	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	37 (25-48)	23 (15-31)	14 (8.7-19)	7.9 (4.9-11)	4.5 (2.8-6.2)	2.5 (1.6-3.5)	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 (0.1-0.2)
3	51 (36-67)	33 (22-47)	20 (13-30)	12 (7.4-18)	6.8 (4.2-10)	3.9 (2.4-5.9)	2.2 (1.3-3.4)	1.3 (0.8-2.0)	0.7 (0.5-1.2)	0.4 (0.3-0.7)	0.2 (0.2-0.4)
4	65 (53-80)	46 (35-61)	29 (21-41)	18 (12-26)	10 (7.1-15)	5.9 (4.0-8.9)	3.4 (2.3-5.2)	2.0 (1.3-3.0)	1.1 (0.8-1.8)	0.7 (0.5-1.0)	0.4 (0.3-0.6)
5	79 (74-88)	60 (54-73)	41 (35-53)	26 (21-35)	15 (13-21)	8.8 (7.2-12)	5.1 (4.2-7.3)	3.0 (2.4-4.3)	1.7 (1.4-2.5)	1.0 (0.8-1.4)	0.6 (0.5-0.8)
6	89	75	55	36	22	13	7.6	4.5	2.6	1.5	0.9

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

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	19	12	6.8	4.0	2.3	1.4	0.8	0.5	0.3	0.2	0.1
1	28 (20-32)	17 (12-20)	10 (7.2-12)	6.1 (4.2-7.3)	3.6 (2.5-4.3)	2.1 (1.4-2.5)	1.3 (0.9-1.5)	0.8 (0.5-0.9)	0.5 (0.3-0.6)	0.3 (0.2-0.3)	0.2 (0.1-0.2)
2	38 (27-48)	25 (17-32)	15 (10-20)	9.2 (5.9-12)	5.4 (3.5-7.2)	3.2 (2.0-4.3)	1.9 (1.2-2.6)	1.2 (0.7-1.6)	0.7 (0.4-0.9)	0.4 (0.3-0.6)	0.3 (0.2-0.3)
3	51 (38-65)	35 (24-47)	22 (15-31)	14 (8.9-19)	8.2 (5.3-12)	4.8 (3.1-7.1)	2.9 (1.9-4.3)	1.8 (1.1-2.6)	1.1 (0.7-1.6)	0.6 (0.4-1.0)	0.4 (0.2-0.6)
4	65 (55-78)	47 (37-61)	31 (24-43)	20 (15-28)	12 (8.7-17)	7.2 (5.1-11)	4.4 (3.1-6.5)	2.7 (1.9-4.0)	1.6 (1.1-2.4)	1.0 (0.7-1.4)	0.6 (0.4-0.9)
5	78 (73-86)	61 (54-73)	43 (37-54)	28 (23-37)	17 (14-24)	11 (8.6-15)	6.5 (5.3-9.1)	4.0 (3.2-5.6)	2.4 (1.9-3.4)	1.4 (1.2-2.1)	0.9 (0.7-1.2)
6	87	74	56	39	25	15	9.5	5.8	3.6	2.2	1.3

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	13	8.4	5.1	3.1	1.9	1.2	0.8	0.5	0.3	0.2
1	33 (29-40)	22 (19-26)	14 (12-17)	8.5 (7.2-11)	5.2 (4.4-6.6)	3.2 (2.7-4.1)	2.0 (1.7-2.6)	1.3 (1.1-1.6)	0.8 (0.7-1.0)	0.5 (0.4-0.6)	0.3 (0.3-0.4)
2	48 (40-59)	33 (27-42)	22 (17-29)	14 (11-19)	8.7 (6.7-12)	5.4 (4.1-7.4)	3.4 (2.6-4.7)	2.2 (1.6-3.0)	1.4 (1.0-1.9)	0.9 (0.7-1.2)	0.5 (0.4-0.7)
3	64 (54-74)	48 (38-58)	33 (25-42)	22 (16-29)	14 (10-19)	8.9 (6.3-12)	5.7 (4.0-7.8)	3.6 (2.5-5.0)	2.3 (1.6-3.1)	1.4 (1.0-2.0)	0.9 (0.6-1.3)
4	79 (70-84)	65 (54-72)	48 (38-56)	34 (26-41)	22 (16-27)	14 (10-18)	9.3 (6.7-12)	6.0 (4.3-7.6)	3.8 (2.7-4.8)	2.4 (1.7-3.1)	1.5 (1.1-1.9)
5	88 (84-89)	79 (72-82)	65 (57-70)	49 (41-54)	34 (28-38)	23 (18-26)	15 (12-17)	9.8 (7.7-11)	6.3 (4.9-7.3)	4.0 (3.1-4.6)	2.5 (2.0-2.9)
6	92	88	79	65	49	35	24	16	10	6.5	4.2

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

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	24	16	11	6.8	4.3	2.9	1.9	1.2	0.8	0.5	0.4
1	40 (32-66)	28 (22-52)	19 (15-38)	13 (9.5-26)	8.5 (6.1-18)	5.7 (4.0-12)	3.8 (2.7-8.0)	2.5 (1.8-5.3)	1.6 (1.2-3.5)	1.1 (0.8-2.3)	0.7 (0.5-1.5)
2	57 (42-80)	44 (30-69)	33 (20-55)	23 (13-41)	15 (8.6-29)	11 (5.7-20)	7.1 (3.8-14)	4.7 (2.5-9.4)	3.1 (1.6-6.3)	2.1 (1.1-4.2)	1.4 (0.7-2.8)
3	73 (55-87)	61 (41-80)	49 (29-68)	37 (19-55)	26 (13-41)	18 (8.6-30)	13 (5.7-21)	8.6 (3.8-15)	5.7 (2.5-10)	3.8 (1.6-6.8)	2.5 (1.1-4.5)
4	83 (69-90)	76 (56-86)	66 (42-79)	53 (30-68)	41 (20-54)	30 (14-42)	21 (9.3-31)	15 (6.2-22)	10 (4.1-15)	6.8 (2.7-10)	4.5 (1.8-6.8)
5	89 (80-91)	86 (71-89)	80 (58-85)	70 (45-77)	58 (32-65)	46 (23-53)	34 (16-40)	24 (11-29)	17 (7.3-21)	12 (4.9-14)	7.9 (3.2-9.6)
6	91	90	88	83	75	64	51	38	28	19	13

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	26	18	13	8.6	5.9	4.1	2.9	2.0	1.4	0.9	0.7
1	41 (32-67)	31 (23-55)	22 (16-43)	16 (11-32)	11 (7.7-23)	7.9 (5.4-17)	5.6 (3.8-12)	3.9 (2.6-8.4)	2.7 (1.8-5.9)	1.9 (1.2-4.1)	1.3 (0.9-2.8)
2	56 (42-77)	46 (31-69)	35 (22-58)	26 (15-46)	19 (11-35)	14 (7.6-27)	10 (5.3-20)	7.2 (3.7-14)	5.0 (2.6-10)	3.5 (1.8-7.1)	2.4 (1.2-4.9)
3	69 (54-83)	60 (42-78)	50 (31-70)	40 (22-59)	31 (16-47)	23 (11-37)	17 (8.0-28)	12 (5.6-21)	8.9 (3.9-15)	6.2 (2.7-11)	4.4 (1.9-7.7)
4	79 (65-86)	73 (54-83)	65 (43-77)	55 (32-69)	45 (24-59)	36 (17-49)	27 (12-39)	20 (8.8-30)	15 (6.2-22)	11 (4.3-16)	7.6 (3.0-12)
5	85 (74-88)	82 (66-86)	77 (57-82)	69 (46-76)	60 (35-68)	51 (27-59)	41 (20-49)	32 (14-39)	24 (10-29)	17 (7.3-22)	13 (5.2-16)
6	88	87	84	80	74	66	57	46	36	27	20

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

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	24	18	13	9.2	6.8	5.0	3.7	2.7	2.0	1.4	1.0
1	37 (30-62)	29 (22-52)	22 (16-42)	17 (12-33)	13 (8.8-26)	9.4 (6.5-20)	7.0 (4.8-15)	5.2 (3.5-11)	3.8 (2.6-8.2)	2.8 (1.9-6.0)	2.0 (1.4-4.4)
2	51 (38-72)	43 (30-64)	34 (22-55)	27 (16-46)	21 (12-38)	16 (9.1-30)	12 (6.7-23)	9.3 (5.0-18)	6.9 (3.6-13)	5.1 (2.6-10)	3.8 (1.9-7.5)
3	64 (48-78)	57 (39-73)	48 (31-66)	40 (23-58)	33 (18-49)	26 (13-41)	20 (10-33)	16 (7.4-26)	12 (5.5-20)	8.9 (4.0-15)	6.6 (2.9-11)
4	74 (59-82)	69 (50-79)	62 (41-74)	54 (32-67)	46 (25-59)	39 (20-50)	31 (15-42)	25 (11-35)	19 (8.4-27)	15 (6.2-21)	11 (4.6-16)
5	81 (68-85)	78 (61-82)	73 (53-78)	67 (44-73)	60 (36-67)	53 (29-60)	45 (23-52)	37 (18-44)	30 (13-36)	23 (10-28)	18 (7.5-22)
6	85	83	81	77	72	66	59	51	43	35	28

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	17	13	9.6	7.3	5.7	4.4	3.4	2.6	2.0	1.6	1.2
1	27 (21-50)	22 (16-42)	17 (12-34)	13 (9.5-27)	11 (7.4-22)	8.3 (5.8-18)	6.5 (4.5-14)	5.0 (3.5-11)	3.9 (2.7-8.5)	3.0 (2.1-6.6)	2.3 (1.6-5.1)
2	40 (28-62)	34 (22-54)	27 (17-46)	22 (13-39)	18 (10-32)	14 (8.1-26)	11 (6.3-21)	9.0 (4.9-17)	7.0 (3.8-14)	5.5 (2.9-11)	4.3 (2.2-8.4)
3	54 (37-71)	47 (30-65)	40 (23-58)	33 (18-50)	28 (15-43)	23 (12-36)	19 (9.2-30)	15 (7.2-25)	12 (5.6-20)	9.4 (4.4-16)	7.4 (3.4-12)
4	67 (48-77)	61 (40-73)	54 (33-67)	47 (26-60)	41 (21-53)	35 (17-46)	29 (14-39)	24 (11-33)	19 (8.4-27)	15 (6.6-22)	12 (5.1-18)
5	75 (59-80)	72 (52-77)	67 (44-73)	61 (37-67)	55 (31-62)	48 (25-55)	42 (21-49)	35 (17-42)	29 (13-35)	24 (10-29)	20 (8.2-24)
6	80	79	77	73	68	63	56	49	42	36	30