FRAX ® WHO Fracture Risk Assessment Tool

Italy - The probabilities of a hip fracture in women

The following tables give the 10-year probability (%) of a hip 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 Italy. 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	0.7	0.4	0.2	0.2	0.1	0.1	0.1
1	1.5 (0.9-2.8)	0.8 (0.5-1.5)	0.4 (0.3-0.8)	0.3 (0.2-0.6)	0.3 (0.2-0.5)	0.2 (0.1-0.4)	0.2 (0.1-0.3)
2	2.8 (1.4-6.0)	1.5 (0.8-3.3)	0.8 (0.4-1.8)	0.6 (0.3-1.4)	0.5 (0.2-1.1)	0.4 (0.2-0.8)	0.3 (0.2-0.6)
3	5.3 (2.2-10)	2.9 (1.2-5.7)	1.6 (0.6-3.1)	1.2 (0.5-2.4)	0.9 (0.4-1.9)	0.7 (0.3-1.5)	0.6 (0.2-1.1)
4	9.6 (3.8-15)	5.3 (2.0-8.6)	2.9 (1.1-4.7)	2.2 (0.9-3.7)	1.7 (0.7-2.8)	1.4 (0.5-2.2)	1.1 (0.4-1.7)
5	17 (8.0-22)	9.4 (4.4-13)	5.2 (2.4-7.0)	4.0 (1.8-5.5)	3.2 (1.4-4.3)	2.5 (1.1-3.3)	1.9 (0.9-2.6)
6	28	16	9.1	7.1	5.6	4.4	3.4

© World Health Organization Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, UK

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

Age = 55 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	1.2	0.7	0.4	0.3	0.2	0.2	0.1
1	2.3 (1.6-4.1)	1.3 (0.9-2.2)	0.7 (0.5-1.2)	0.5 (0.4-0.9)	0.4 (0.3-0.7)	0.3 (0.2-0.6)	0.2 (0.2-0.4)
2	4.4 (2.4-8.6)	2.4 (1.3-4.7)	1.3 (0.7-2.6)	1.0 (0.5-2.0)	0.8 (0.4-1.6)	0.6 (0.3-1.2)	0.5 (0.3-0.9)
3	8.0 (3.6-15)	4.4 (2.0-8.2)	2.4 (1.1-4.5)	1.9 (0.8-3.5)	1.4 (0.6-2.7)	1.1 (0.5-2.1)	0.9 (0.4-1.7)
4	14 (6.4-22)	7.8 (3.5-12)	4.3 (1.9-6.8)	3.3 (1.5-5.3)	2.6 (1.1-4.1)	2.0 (0.9-3.2)	1.6 (0.7-2.5)
5	24 (13-30)	14 (7.3-18)	7.6 (4.0-10)	5.9 (3.1-7.9)	4.6 (2.4-6.2)	3.6 (1.9-4.8)	2.8 (1.5-3.8)
6	38	23	13	10	8.0	6.3	4.9

Age = 60 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	2.3	1.2	0.7	0.5	0.4	0.3	0.2
1	4.1 (3.0-6.4)	2.3 (1.6-3.5)	1.2 (0.9-1.9)	1.0 (0.7-1.5)	0.7 (0.5-1.2)	0.6 (0.4-0.9)	0.4 (0.3-0.7)
2	7.4 (4.4-13)	4.1 (2.4-7.4)	2.2 (1.3-4.1)	1.7 (1.0-3.2)	1.4 (0.8-2.5)	1.1 (0.6-1.9)	0.8 (0.5-1.5)
3	13 (6.6-22)	7.3 (3.7-13)	4.0 (2.0-7.1)	3.1 (1.6-5.6)	2.4 (1.2-4.3)	1.9 (0.9-3.4)	1.5 (0.7-2.6)
4	22 (11-32)	13 (6.4-19)	7.0 (3.5-11)	5.5 (2.7-8.4)	4.3 (2.1-6.6)	3.3 (1.7-5.1)	2.6 (1.3-4.0)
5	35 (23-43)	21 (13-27)	12 (7.4-16)	9.4 (5.8-12)	7.4 (4.5-9.7)	5.8 (3.5-7.6)	4.5 (2.7-6.0)
6	52	34	20	16	13	9.9	7.8

FRAX® WHO Fracture Risk Assessment Tool

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

Age = 65 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	4.1	2.3	1.2	1.0	0.7	0.6	0.5
1	7.1 (5.3-9.9)	4.0 (3.0-5.5)	2.2 (1.6-3.1)	1.7 (1.3-2.4)	1.3 (1.0-1.8)	1.0 (0.8-1.4)	0.8 (0.6-1.1)
2	12 (7.8-19)	6.9 (4.4-11)	3.9 (2.4-6.4)	3.0 (1.9-5.0)	2.3 (1.5-3.9)	1.8 (1.1-3.0)	1.4 (0.9-2.4)
3	20 (12-32)	12 (6.6-19)	6.6 (3.7-11)	5.2 (2.9-8.7)	4.0 (2.2-6.8)	3.2 (1.7-5.3)	2.5 (1.3-4.1)
4	32 (20-44)	19 (11-28)	11 (6.4-16)	8.8 (5.0-13)	6.9 (3.9-10)	5.4 (3.0-8.0)	4.2 (2.4-6.2)
5	47 (36-56)	31 (22-38)	18 (13-23)	15 (10-19)	12 (8.1-15)	9.1 (6.3-12)	7.1 (4.9-9.1)
6	65	46	29	24	19	15	12

Age = 70 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	7.4	4.3	2.4	1.9	1.4	1.1	0.9
1	13 (11-15)	7.7 (6.2-8.9)	4.4 (3.5-5.0)	3.4 (2.7-3.9)	2.6 (2.1-3.1)	2.1 (1.6-2.4)	1.6 (1.3-1.8)
2	23 (16-29)	14 (9.3-18)	7.9 (5.3-10)	6.2 (4.1-8.2)	4.8 (3.2-6.4)	3.8 (2.5-5.0)	2.9 (1.9-3.9)
3	36 (26-49)	23 (16-33)	14 (9.2-21)	11 (7.2-16)	8.7 (5.6-13)	6.8 (4.4-10)	5.3 (3.4-8.0)
4	54 (43-67)	38 (29-50)	24 (18-33)	19 (14-27)	15 (11-22)	12 (8.9-17)	9.5 (6.9-14)
5	71 (66-78)	56 (51-64)	39 (34-46)	32 (28-38)	26 (22-31)	21 (18-25)	16 (14-20)
6	83	75	58	50	41	34	28

FRAX® WHO Fracture Risk Assessment Tool

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

Age = 75 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	13	7.9	4.6	3.6	2.8	2.2	1.7
1	23 (18-37)	15 (11-25)	9.1 (6.7-15)	7.1 (5.2-12)	5.5 (4.0-9.4)	4.3 (3.1-7.4)	3.3 (2.4-5.7)
2	38 (25-55)	27 (16-42)	17 (10-28)	13 (7.8-23)	11 (6.1-18)	8.2 (4.7-14)	6.4 (3.7-11)
3	56 (39-72)	43 (27-61)	29 (17-45)	24 (13-37)	19 (10-30)	15 (8.2-24)	12 (6.4-19)
4	71 (55-82)	61 (43-76)	47 (28-63)	39 (23-55)	32 (18-46)	26 (14-38)	21 (11-31)
5	81 (70-86)	77 (62-84)	67 (47-76)	58 (40-68)	50 (32-60)	42 (26-51)	35 (21-43)
6	87	86	82	77	70	62	53

Age = 80 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	20	13	8.0	6.2	4.8	3.7	2.9
1	32 (25-49)	23 (17-37)	15 (11-25)	12 (8.7-20)	9.1 (6.8-16)	7.1 (5.2-12)	5.5 (4.0-9.7)
2	47 (34-65)	37 (25-54)	26 (16-42)	21 (13-34)	16 (10-28)	13 (7.9-22)	10 (6.1-18)
3	61 (45-75)	52 (35-69)	41 (24-59)	34 (19-51)	27 (15-43)	22 (12-35)	18 (9.3-29)
4	72 (58-81)	67 (50-78)	58 (38-72)	50 (31-64)	42 (25-56)	35 (20-48)	29 (16-40)
5	80 (70-85)	78 (65-84)	73 (56-81)	67 (48-75)	59 (40-68)	51 (33-61)	44 (27-52)
6	85	85	83	79	74	68	60

FRAX® WHO Fracture Risk Assessment Tool

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

Age = 85 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	22	16	10	8.0	6.2	4.8	3.7
1	35 (27-53)	27 (20-43)	19 (14-31)	15 (11-25)	11 (8.4-20)	9.0 (6.5-16)	6.9 (5.0-12)
2	49 (36-67)	41 (29-59)	31 (20-48)	25 (16-40)	20 (12-33)	16 (9.7-26)	12 (7.5-21)
3	62 (48-76)	56 (39-71)	46 (29-64)	39 (23-56)	32 (19-48)	26 (15-40)	21 (11-33)
4	72 (59-81)	69 (53-79)	62 (44-75)	55 (37-68)	47 (30-61)	40 (24-53)	33 (19-45)
5	79 (70-83)	78 (67-83)	75 (60-82)	69 (52-77)	63 (44-71)	55 (37-65)	48 (30-57)
6	81	83	83	80	75	70	63

Age = 90 years

Number of CRFs	BMI (kg/m²)						
	15	20	25	30	35	40	45
0	19	14	9.9	7.7	5.9	4.5	3.5
1	30 (22-46)	24 (18-39)	18 (13-29)	14 (9.9-24)	11 (7.7-19)	8.3 (5.9-15)	6.4 (4.5-11)
2	43 (31-61)	36 (25-54)	29 (19-44)	23 (15-37)	18 (11-30)	14 (8.8-24)	11 (6.8-19)
3	56 (41-70)	50 (35-65)	42 (27-59)	36 (21-51)	29 (17-44)	24 (13-36)	19 (10-29)
4	67 (52-77)	63 (46-74)	57 (39-70)	50 (32-63)	43 (26-56)	36 (21-48)	29 (16-40)
5	74 (64-78)	73 (60-79)	70 (54-77)	64 (47-72)	57 (39-66)	50 (32-59)	42 (26-52)
6	75	79	79	75	70	64	57