

Supplementary Table S1. Items in the preliminary 34-item questionnaire. *Items 21 and

28 were reversed scored.

1	My tophi are painful	Agree/Disagree
2	I feel pain when my tophi are knocked	Agree/Disagree
3	I have difficulty walking because of my tophi	Agree/Disagree
4	My tophi cause difficulty with gripping things	Agree/Disagree
5	My tophi make it hard to lift heavy objects	Agree/Disagree
6	Bending down to the ground is difficult because of my tophi	Agree/Disagree
7	Writing is difficult because of my tophi	Agree/Disagree
8	I have difficulty feeding myself because of my tophi	Agree/Disagree
9	My tophi cause difficulty with getting dressed	Agree/Disagree
10	My tophi cause difficulty in putting on socks and shoes	Agree/Disagree
11	I have to make changes to my footwear because of my tophi	Agree/Disagree
12	I have to buy special shoes because of my tophi	Agree/Disagree
13	My tophi cause financial difficulty	Agree/Disagree
14	My tophi cause difficulty participating in family life	Agree/Disagree
15	My tophi cause difficulty in my leisure activities	Agree/Disagree
16	My tophi cause difficulty with doing household chores	Agree/Disagree
17	My tophi cause difficulty doing my job	Agree/Disagree
18	I have difficulty doing outdoor work because of my tophi	Agree/Disagree
19	I can only perform 'light activities' because of my tophi	Agree/Disagree
20	I cannot play sport because of my tophi	Agree/Disagree
21	My tophi do not have any effect on my life	Agree/Disagree
22	I feel embarrassed because of my tophi	Agree/Disagree
23	My tophi cause others to feel uncomfortable	Agree/Disagree
24	My tophi affect me emotionally	Agree/Disagree
25	My tophi are unpleasant to look at	Agree/Disagree
26	My tophi are the only thing people focus on when they see me	Agree/Disagree
27	My life would be better if I could get rid of my tophi	Agree/Disagree
28	My tophi do not bother me	Agree/Disagree
29	My tophi have burst	Agree/Disagree
30	My tophi have become infected	Agree/Disagree
31	I have visited my doctor for treatment of my tophi	Agree/Disagree
32	I have had surgery for my tophi	Agree/Disagree
33	I can see my tophi getting smaller	Agree/Disagree
34	I can see my tophi getting bigger	Agree/Disagree

Supplementary Table S2. Items excluded from the preliminary 34-item questionnaire during Rasch analysis.

Iteration stage	Overall item-trait chi square before item removal (p-value)	Item Number	Item(s) removed
1	394.48 (<0.001)	33	I can see my tophi getting smaller
		34	I can see my tophi getting bigger
2	140.82 (<0.001)	15	My tophi cause difficulty in my leisure activities
3	133.37 (<0.001)	18	I have difficulty doing outdoor work because of my tophi
4	121.33 (<0.001)	4	My tophi cause difficulty with gripping things
5	112.09 (<0.001)	16	My tophi cause difficulty with doing household chores
6	97.22 (0.0005)	17	My tophi cause difficulty doing my job
7	79.40 (0.014)	29	My tophi have burst
8	76.24 (0.016)	5	My tophi make it hard to lift heavy objects
9	72.45 (0.21)	10	My tophi cause difficulty in putting on socks and shoes
10	65.10 (0.05)	24	My tophi affect me emotionally
11	55.77 (0.15)		-
12	55.77 (0.15)	26	My tophi are the only thing people focus on when they see me
13	59.77 (0.06)	9	My tophi cause difficulty with getting dressed
14	54.44 (0.09)	19	I can only perform 'light activities' because of my tophi
15	44.41 (0.29)		-

Supplementary Table S3. Conversion of TIQ-20 raw (ordinal scale) to the Rasch modelled (interval scale) scores. To calculate the TIQ-20 raw score, each item is scored 1 if answered in the affirmative (agree). Items 12 and 17 are reverse scored. The TIQ-20 raw score is the sum of all item scores (maximum score 20, indicates severe tophus impact). TIQ-20 raw (ordinal scale) scores are converted to the Rasch modelled TIQ-20 (interval scale) scores using the table. The person location scores were added to 5 to give a notional range of 0 to 10 for the Rasch modelled TIQ-20 score.

Raw score	Mean Person-Location	TIQ-20 score
0	-4.11	0.89
1	-3.23	1.77
2	-2.59	2.41
3	-2.11	2.89
4	-1.74	3.26
5	-1.39	3.61
6	-1.05	3.95
7	-.76	4.24
8	-.51	4.49
9	-.24	4.76
10	.02	5.02
11	.28	5.28
12	.55	5.55
13	.86	5.86
14	1.12	6.12
15	1.40	6.40
16	1.73	6.73
17	2.10	7.10
18	2.56	7.56
19	3.19	8.19
20	4.06	9.06