

## Supplementary materials

## Supplementary table A: search syntax

**Pubmed (n=1212)** <https://pubmed.ncbi.nlm.nih.gov/>

((("patient outcome assessment"[MeSH]) OR ("quality of life"[MeSH]) OR (quality of life[Title/Abstract]) OR ("patient satisfaction"[MeSH] OR patient satisfaction[Title/Abstract]) OR HR-PRO[tiab] OR HRPRO[tiab] OR HRQL[tiab] OR HRQoL[tiab] OR QL[tiab] OR QoL[tiab] ("Health Status"[Mesh]) OR (Patient\*[Title/Abstract] AND report\*[Title/Abstract] AND outcome\*[Title/Abstract]) OR (Patient\*[Title/Abstract] AND report\*[Title/Abstract] AND outcome\*[Title/Abstract] AND measure\*) AND (("Hip Fractures"[Mesh] OR (hip[Title/Abstract] OR femoral[Title/Abstract] OR femur[Title/Abstract] OR (upper[Title/Abstract] AND leg[Title/Abstract])) AND ("Fractures, Bone"[Mesh] OR fractu\*[Title/Abstract]))) AND (("Aged"[Mesh] OR aged[Title/Abstract] OR elderly[Title/Abstract] OR geriatric[Title/Abstract] OR octogenarian[Title/Abstract] OR nonagenarian[Title/Abstract] OR old[Title/Abstract])) AND (2013/1/1:2021/5/24[pdat])) NOT (("addresses"[Publication Type] OR "biography"[Publication Type] OR "case reports"[Publication Type] OR "comment"[Publication Type] OR "directory"[Publication Type] OR "editorial"[Publication Type] OR "festschrift"[Publication Type] OR "interview"[Publication Type] OR "lectures"[Publication Type] OR "legal cases"[Publication Type] OR "legislation"[Publication Type] OR "letter"[Publication Type] OR "news"[Publication Type] OR "newspaper article"[Publication Type] OR "patient education handout"[Publication Type] OR "popular works"[Publication Type] OR "congresses"[Publication Type] OR "consensus development conference"[Publication Type] OR "consensus development conference, nih"[Publication Type] OR "practice guideline"[Publication Type]) NOT ("animals"[MeSH Terms] NOT "humans"[MeSH Terms]) AND (2013/1/1:2021/5/24[pdat]))

**CENTRAL (n=477)** <https://www.cochranlibrary.com/advanced-search>

Hip Fractures in Title Abstract Keyword AND (elderly OR aged OR geriatric OR octogenarian OR nonagenarian OR old\*) in Title Abstract Keyword AND ((Patient AND reported AND outcome\*) OR ("patient reported outcomes") OR (patient near/3 outcome) OR ("patient reported outcome\* measure") OR (Patient\* next satisfaction) OR ("patient\* satisfaction") ("Quality of Life")\* OR (PRO)) in Title Abstract Keyword - (Word variations have been searched) → limit year 2013-Current

**Embase (n=1970)** <https://www-embase-com.vu-nl.idm.oclc.org/search/quick?phase=continueToApp>

('patient-reported outcome'/exp OR 'patient-reported outcome':ti,ab OR 'patient reported outcomes'/exp OR 'patient reported outcomes':ti,ab OR 'patient reported outcome measure'/exp OR 'patient reported outcome measure':ti,ab OR 'patient reported outcome measurement'/exp OR 'patient reported outcome measurement':ti,ab OR 'patient reported outcome measurement information system'/exp OR 'patient reported outcome measurement information system':ti,ab OR 'quality of life'/exp OR 'quality of life':ti,ab OR 'quality of life assessment'/exp OR 'quality of life assessment':ti,ab OR 'patient satisfaction'/exp OR 'patient satisfaction':ti,ab OR ((patient NEAR/3 outcome):ti,ab) OR hrqol:ti,ab) AND ('proximal femur fracture'/exp OR femur:ti,ab OR femoral:ti,ab OR hip:ti,ab OR 'upper leg bone':ti,ab) AND ('fracture'/exp OR fractu\*:ti,ab) AND ('aged'/exp OR aged OR elderly OR nonagenarian\* OR octogenarian\* OR geriatric OR old OR 'frail elderly':ti,ab) AND (2013:py OR 2014:py OR 2015:py OR 2016:py OR 2017:py OR 2018:py OR 2019:py OR 2020:py OR 2021:py) AND [humans]/lim AND [abstracts]/lim

Supplement table B: Critical appraisal MINORS

MINOR criteria	Clearly stated aim	Inclusion of consecutive patients	Prospective collection of data	Appropriate endpoints	Unbiased assessment endpoints	Appropriate Follow-up	Loss to follow-up <5%	Prospective calculation study size	Adequate control group	Contemporary groups	Baseline equivalence of groups	Adequate statistical analysis	Total MINORS score
<b>RCTs</b>													
Ma et al 2018	2	0	2	2	2	0	2	2	2	2	2	2	20/24
Lilot et al 2013	2	0	2	2	2	2	2	2	2	2	2	2	22/24
Prestmo et al 2016	2	2	2	2	2	2	2	2	2	2	2	2	24/24
Jianbo et al 2019	1	2	2	2	0	2	2	0	2	2	2	1	18/24
Karlsson et al 2002	2	2	2	2	2	2	2	2	2	2	2	2	24/24
Lu et al 2017	2	2	2	2	1	2	2	2	2	2	2	2	23/24
Cadossi et al 2013	2	2	2	2	2	2	1	2	2	2	2	2	23/24
Wei et al 2020	2	0	2	2	2	2	1	2	2	2	2	2	21/24
Beaupre 2020	2	0	2	2	2	2	0	1	2	2	2	2	19/24
Taraldsen et al 2019	2	2	2	2	2	2	1	2	2	2	2	2	23/24
Liu et al 2019	1	1	2	2	1	1	1	1	2	2	2	2	18/24
Kammerlander et al 2018	2	0	2	2	2	2	1	2	2	2	2	2	21/24
Moerman et al 2017	2	0	2	2	2	2	1	2	2	2	2	2	21/24
Inngul et al 2013	2	0	2	2	0	2	2	2	2	2	2	2	20/24
Hedbeck et al 2013	2	0	2	2	1	2	1	2	2	1	2	2	19/24
Gambatesa et al 2013	2	0	2	2	2	2	2	2	2	2	2	2	22/24
Dolatwoski et al 2019	2	0	2	2	1	2	2	2	2	2	1	2	20/24
Monticone et al 2018	2	2	2	2	2	2	1	1	2	2	2	2	22/24
Bartha et al 2019	2	0	2	2	2	2	1	2	2	2	2	2	21/24
Crotty et al 2019	2	0	2	2	2	2	2	2	2	2	2	2	22/24
Tol et al 2017	2	0	2	2	2	2	1	2	2	2	2	2	21/24
Chammout et al 2019	2	0	2	2	2	2	2	2	2	2	2	2	22/24
Figved et al 2021	2	0	2	2	2	2	1	2	2	2	1	2	20/24
Langslet et al 2018	2	1	2	2	2	2	2	2	2	2	1	2	22/24
Ugland et al 2017	2	0	2	2	2	2	0	2	2	2	1	2	19/24
Martín-Martín et al 2014	2	2	2	2	2	2	2	2	2	2	2	2	24/24
Gregersen et al 2015	2	2	2	2	2	2	2	2	2	2	2	2	23/24
Schmal et al 2018	2	2	2	2	2	1	0	0	2	2	0	1	16/24
Mak et al 2016	2	0	2	2	1	1	1	2	2	2	2	2	19/24
Song et al 2020	2	2	2	2	2	2	2	0	2	2	2	2	22/24
Barenus et al 2018	2	2	2	2	2	2	2	2	2	2	2	2	24/24
Solarino et al 2020	2	2	2	2	2	2	1	0	2	2	2	2	21/24
Nardi et al 2018	2	0	2	2	2	2	0	0	2	2	2	2	18/24
Pompeo et al 2019	1	1	2	2	2	2	0	2	2	2	2	2	20/24
O'Halloran et al 2016	2	2	2	2	2	1	1	2	2	2	0	1	19/24
Segev-Jacobovski et al 2019	2	2	2	2	2	2	1	0	2	2	2	2	21/24
Panella et al 2018	2	2	2	2	2	1	1	1	2	2	2	2	21/24
Masters et al 2021	2	0	2	2	2	2	2	1	2	2	2	2	21/24
Caiaffa et al 2016	2	0	2	2	2	2	1	0	2	2	2	1	18/24
Orive et al 2015	2	1	2	2	1	2	1	1	2	2	2	1	19/24
Renerts et al 2019	2	2	2	2	2	2	1	2	2	2	2	2	23/24
Pol et al 2019	2	0	2	2	2	2	1	2	2	2	2	2	21/24
<b>Observational studies</b>													
Blauth et al 2021	2	2	2	2	1	2	1	2	2	2	1	2	21/24
Van der Sijp et al 2020	2	0	1	2	1	2	2	2	2	2	2	2	20/24

Dung et al 2019	2	0	2	2	1	2	2	0	2	2	1	0	16/24
Jolly et al 2019	1	1	2	2	1	2	1	2	2	2	0	0	16/24
Hommel et al 2016	2	2	0	2	0	2	0	2	-	-	-	-	10/16
Jonas et al 2015	2	0	0	2	0	2	1	2	2	2	2	2	17/24
Sköldenberg et al 2014	2	1	2	2	1	2	2	2	2	2	2	2	22/24
Kristensen et al 2020	2	0	1	2	1	2	2	2	2	2	2	1	19/24
Beaupre et al 2019	2	0	2	2	2	2	0	0	2	2	2	2	18/24
Leonardsson et al 2016	2	0	1	2	0	2	0	0	-	-	-	-	7/16
Chen et al 2014	2	1	1	2	1	2	2	1	2	2	2	2	20/24
Liu et al 2020	2	1	1	2	1	2	2	2	2	2	2	2	21/24
Werner et al 2017	2	1	1	2	1	2	2	1	2	2	2	2	20/24
Pass et al 2020	2	2	0	2	0	2	0	2	2	2	2	2	18/24
Jo et al 2021	2	1	1	1	1	2	2	0	-	-	-	-	10/16
Flury et al 2020	2	1	1	2	1	2	2	2	2	2	2	2	21/24
Löfgren et al 2015	2	2	1	2	2	2	2	0	2	2	2	2	21/24
Yoon et al 2021	2	2	1	2	2	2	2	0	2	2	2	2	21/24
Kalmet et al 2019	2	2	1	2	2	2	2	0	2	2	2	2	21/24
Ju et al 2019	2	2	1	2	2	2	2	0	2	2	2	2	21/24
Thürig et al 2016	2	2	1	2	2	2	2	0	2	2	2	2	21/24
Kim et al 2019	2	2	1	2	2	2	2	0	2	2	2	2	21/24
Todd et al 2015	2	0	1	1	0	0	0	0	2	1	2	1	10/24
Soleimani et al 2020	2	1	2	2	2	2	2	0	2	2	2	2	21/24
Jorissen et al 2020	2	0	1	2	1	2	2	2	2	2	2	2	20/24

Supplementary table C: detailed study information

First author	Journal	Year	Country	Study period	Design	N patients	Male	Female	Mean age	Mean FU	Prim/sec PRO	No. of centers	MINORS total
Ma	Experimental and Therapeutic Medicine	2018	China	1,17	RCT	88	30	58	83,89	0	Primary	1	20
Lilot	Anesthesia and Analgesia	2013	France	2,25	RCT	68	15	53	84,5	0	Secondary	1	22
Prestmo	BMC Geriatrics	2016	Norway	3,67	RCT-FU	397	104	293	83,3	42	Primary	1	24
Jianbo	Injury	2019	China	17	RCT	100	60	40	78,8	24	Secondary	1	18
Karlsson	Archives of physical medicine and rehabilitation	2020	Sweden	26	RCT	205	58	147	82,9	12	Primary	1	24
Lu	AOTS	2017	China	23	RCT-FU	78	20	58	86,04	38,68	.	2	23
Cadossi	The Bone & Joint journal	2013	Italy	25	RCT	83	21	62	83,3	30,1	Primary	1	23
Blauth	BMJ Open	2021	Switzerland	18	OPCS	281	74	207	82,9	12	Secondary	12	21
van der Sijp	Injury	2020	The Netherlands	25	OPCS	114	30	84	83,9	12	Secondary	1	20
Wei	J Am Geriatr Soc	2020	China	82	RCT	154	42	112	82,7	36	Primary	1	21
Beaupre	J Gerontol A Biol Sci Med Sci	2020	Canada	52	RCT	77	23	54	87,9	12	Primary	3	19
Dung	Open Access Maced J Med Sci	2019	Vietnam	23	OPCS	35	9	26	84,29	6	Secondary	2	16
Taraldsen	PLoS ONE	2019	Norway	37	RCT	143	33	110	83,4	12	Secondary	1	23
Jolly	J Multidiscip Health	2019	India	36	OPCS	100	.	.	80,0	12	Primary	1	16
Liu	J Clin Orthop Traum	2019	China	24	RCT	83	48	35	82,7	.	Primary	1	18
Kammerlander	Int J Clin Exp Med	2018	Switzerland	40	RCT	223	37	186	85,8	12	Secondary	9	21
Moerman	Injury	2017	The Netherlands	24	RCT	201	58	143	83,5	12	Primary	4	21
Hommel	BMC Musculoskelet Disord	2016	Sweden	36	ORCS	1023	274	749	87,8	4	Secondary	1	14
Jonas	Int J Older People Nurs	2015	United Kingdom	32	ORCS	110	22	88	78,5	24	Secondary	>15	17
Sköldenberg	Injury	2014	Sweden	29	OPCS-FU	50	14	36	81,0	24	Secondary	1	22
Inngul	Acta Orthop	2013	Sweden	38	RCT-FU	120	29	91	86,1	48	Primary	1	20
Hedbeck	Int Orthop	2013	Sweden	83	RCT	60	11	49	84,6	24	Secondary	1	19
Gambatesa	J Orthop Trauma	2013	Italy	18	RCT	40	3	37	80,8	1	Primary	1	22
Dolatwoski	JBJS	2019	Norway	36	RCT	219	62	157	83,2	24	Primary	3	20
Kristensen	Clinical orthopaedics and related research	2020	Norway	144	ORCS	30178	8752	21426	84,0	36	Secondary	>15	19

Monticone	Clinical rehabilitation	2018	Italy	41	RCT	30	9	37	77,45	12	Secondary	1	22
Bartha	Acta Anaesthesiologica Scandinavia	2019	Sweden	48	RCT-FU	149	54	146	85,5	12	Secondary	1	21
Beaupre	Journal of Gerontology	2019	Canada	48	OPCS	77	22	55	88,6	12	Primary	3	18
Crotty	Age and Ageing	2019	Australia	30	RCT	240	62	178	88,6	12	Primary	3	22
Tol	The Bone & Joint journal	2017	The Netherlands	264	RCT-FU	50	3	47	81,2	144	Primary	8	21
Chammout	JBJS	2019	Sweden	55	RCT	120	30	90	86,0	24	Primary	2	22
Leonardsson	The Bone & Joint journal	2016	Sweden	12	ORCS	2118	549	1569	85,0	12	Primary	>15	18
Figved	Acta Orthop	2021	Norway	18	RCT	28	6	22	80,5	24	Secondary	1	20
Langslet	Clinical orthopaedics and related research	2018	Norway	23	RCT-FU	223	56	167	83,2	60	Primary	2	22
Chen	Injury	2014	China	72	ORCS	130	49	81	76,7	.	Secondary	1	20
Liu	Osteoporosis international	2020	China	144	ORCS	327	35	292	93,7	.	Primary	6	21
Morice	Orthopaedics & Traumatology, Surgery & Research	2015	France	36	ORCS	39	6	33	101,3	23	Primary	1	16
Ugland	Osteoporosis international	2017	Norway	41	RCT	150	41	109	81,3	3	Primary	1	19
Reina	Orthopaedics & Traumatology, Surgery & Research	2018	France	12	OPCS	542	124	418	87,0	6	Secondary	.	16
Werner	BMC Musculoskeletal Disord	2017	Germany	17	ORCS	143	43	100	84,5	.	Secondary	1	20
Pass	EJOT	2020	Germany	24	ORCS	5554	1674	3862	82,0	4	Secondary	>15	18
Jo	Hip & Pelvis	2021	Korea	.	ORCS	82	35	47	84,1	12	Secondary	1	13
Flury	Journal of Orthopaedics	2020	Switzerland	68	ORCS	90	21	69	83,5	34	Secondary	1	21
Löfgren	The International journal of health planning and management	2015	Sweden	12	ORCS	503	159	344	83,3	12	primary	1	21
Martín-Martín	Clinical rehabilitation	2014	Spain	6	RCT	116	28	88	82	6	secondary	1	24
Yoon	BMC geriatrics	2021	Korea	24	ORCS	211	50	161	81,6	6	secondary	3	21
Kalmet	Geriatric orthopaedic surgery & rehabilitation	2019	NL	24	ORCS	398	116	282	82,7	24	primary	1	21
Ju	Orthopaedic surgery	2019	China	24	ORCS	168	56	112	80,1	15,7	primary	1	21
Gregersen	Journal: Journal of the American Medical Directors Association -	2015	Denmark	42	RCT	157	35	122	86,3	12	primary	1	23

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Schmal	Rehabilitation Research and Practice	2018	Denmark	.	OPCS	22	11	11	81	0.2	primary	.	16
Mak JC	BMC Musculoskelet	2016	Australia	.	RCT	218	50	168	83.9	6	secondary	5	19
Song	BMC musculoskeletal disorders	2020	China	48	RCT	94	24	70	71.8	12	primary	1	22
Thürig	Patient Saf. Surg.	2016	Switzerland	60	ORCS	86	24	62	75	12	secondary	1	21
Barenius	The bone & joint journal	2018	Sweden	48	RCT-FU	141	42	99	81.3	48	secondary	1	24
Solarino	Hip international : the journal of clinical and experimental research on hip pathology and therapy	2020	Italy	18	OPCS	118	50	68	74.3	24	primary	1	21
Nardi	J Am Med Dir Assoc	2018	Switzerland	36	OPCS	107	17	90	83	12	secondary	1	18
Pompeo	Journal of orthopaedic surgery and research	2019	Italy	24	OPCS	323	51	104	85.4	12	secondary	2	20
Kim	Injury	2019	Korea	36	ORCS	112	42	70	80.8	19	primary	1	21
Todd	International journal of orthopaedic and trauma nursing	2015	USA	6	ORCS	56	21	35	.	.	secondary	1	10
Nishioka	Journal of the Academy of Nutrition and Dietetic	2018	Japan	24	ORCS	110	24	86	85.4	.	secondary	15	21
O'Halloran	Clinical rehabilitation	2016	Australia	9	RCT	25	4	21	82.6	2	secondary	1	19
Segev-Jacobovski	OTJR (Thorofare N J)	2019	Israel	.	OPCS	55	16	39	80.8	6	primary	1	21
Panella	Injury	2018	Belgium	.	RCT	514	119	395	81.3	6	secondary	26	21
Masters	The Bone & Joint journal	2021	UK	.	RCT	432	134	228	.	.	secondary	5	21
Soleimani	Clinical Gerontologist	2020	Israel	11	RCT	88	22	22	71.0	14.5	primary	1	21
Caiaffa	Injury	2016	Italy	30	ORCS	266	93	173	78.9	.	secondary	6	18
Orive	Int. J. Clin. Pract.	2015	Spain	15	OPCS	891	193	698	83.2	12	primary	7	19
Renerts	Quality of life research	2019	Switzerland	12	RCT	173	36	137	84.2	12	primary	1	23
Pol	Age and ageing	2019	NL	17	RCT	240	49	191	83.8	6	primary	6	21
Jorissen	Bone	2020	Australia	150	ORCS	2771	1164	3607	85.8	12	secondary	.	20

RCT: randomized controlled trial. ORCS: observational retrospective cohort study. OPRS: Observational prospective cohort study. FU: Follow-up. PRO: patient-reported outcome.

Supplement table D: differences in reporting CONSORT-PRO between RCTs/observational studies and PRO as primary/secondary outcome

Description	Adequate description n(%)	Adequate reporting in			Adequate reporting when PRO outcome is		
		RCT	Observational study	P-value	Primary	Secondary	P-value
P1b: the PRO should be identified in the abstract as a primary or secondary outcome	30(44.8)	21(50.0)	9(36.0)	0.332	22(66.7)	8(24.2)	<b>0.002</b>
C2a: Background and rationale for PRO assessment	24(35.8)	17(40.5)	7(28.0)	0.490	15(45.5)	9(27.3)	0.174
P2b: hypothesis should be stated and relevant domains identified, if applicable	10(14.9)	8(19.0)	2(8.0)	0.338	6(18.2)	4(12.1)	0.177
P6a: Evidence of PRO-instrument validity and reliability should be provided or cited if available	51(76.1)	36(85.7)	15(60.0)	0.057	28(84.4)	22(66.7)	0.090
P6aa: Mode of administration, including the person completing the PRO and methods of data collection	32(47.8)	22(52.4)	10(40.0)	0.200	18(54.5)	13(39.4)	0.211
C7a: How sample size was determined: only if PRO was a primary study outcome	35(52.2)	26(61.9)	9(36.0)	<b>0.002</b>	17(51.1)	17(51.1)	0.499
P12a: Statistical approaches for dealing with missing data are explicitly stated	11(16.4)	8(19.0)	3(12.0)	0.716	4(12.1)	7(21.2)	0.471
C13a: Results: the number of PRO outcome data at baseline and at subsequent time points should be made transparent	49(73.1)	31(73.8)	18(72.0)	0.964	28(84.4)	20(60.6)	0.085
C15: Baseline table/outcomes showing PRO data when collected	51(76.1)	33(78.6)	18(72.0)	0.283	28(84.8)	22(66.7)	0.151
C16a: For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups, required for PRO results	56(83.6)	34(81.0)	22(88.0)	0.729	28(84.8)	27(81.8)	0.653
C17a: For each primary and secondary outcome, results for each group, the estimated effect size and its precision measure (such as 95% confidence interval). For multidimensional PRO results from each domain and time point	26(38.8)	16(38.1)	10(40.0)	0.037	17(51.5)	9(27.3)	0.130
C18: Results of any other analysis and adjusted analysis distinguishing prespecified from explanatory, including PRO analysis where relevant	40(59.7)	29(69.0)	11(44.0)	0.111	24(72.7)	15(45.5)	0.079
P20/21: PRO-specific limitations and implications for generalizability and clinical practice	14(20.9)	9(21.4)	5(20.0)	0.162	9(27.3)	5(15.2)	0.207
C22: PRO data should be interpreted in relation to clinical outcomes including survival data, where relevant	13(19.4)	10(23.8)	3(12.0)	0.378	9(27.3)	4(12.1)	0.294

Supplementary table E CONCEPT STROBE -PRO Extension—checklist of items that should be included in reports of observational studies reporting patient-reported outcomes

	Item No	Recommendation	Page No
<b>Title and abstract</b>	1	(a) Indicate the study's design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found <i>PRO should be named in the abstract and identified as primary/secondary outcome</i>	
<b>Introduction</b>			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported <i>Explain the background and rationale for PRO assessment</i>	
Objectives	3	State specific objectives, including any prespecified hypotheses <i>State PRO hypothesis and identify relevant domains, where relevant</i>	
<b>Methods</b>			
Study design	4	Present key elements of study design early in the paper	
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants (b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable <i>Evidence of PRO measurement validity should be provided or cited if available including the person completing the PRO and methods of data collection (paper, telephone, electronic, other)</i>	
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	
Bias	9	Describe any efforts to address potential sources of bias <i>including biases posed by PRO</i>	
Study size	10	Explain how the study size was arrived at	
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed <i>statistical approached for dealing with missing PRO data should be explicitly stated</i> (d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy (e) Describe any sensitivity analyses	

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<b>Results</b>		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed
		(b) Give reasons for non-participation at each stage
		(c) Consider use of a flow diagram
		(d) Number of PRO outcome data at baseline and at subsequent time points should be made transparent
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders
		(b) Indicate number of participants with missing data for each variable of interest
		(c) Cohort study—Summarise follow-up time (eg, average and total amount)
		(d) include baseline PRO data, when collected
Outcome data	15*	Cohort study—Report numbers of outcome events or summary measures over time
		Case-control study—Report numbers in each exposure category, or summary measures of exposure
		Cross-sectional study—Report numbers of outcome events or summary measures
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included
		(b) Report category boundaries when continuous variables were categorized
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses
		Including PRO analysis, where relevant
<b>Discussion</b>		
Key results	18	Summarise key results with reference to study objectives
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	
PRO-specific limitations and implications for generalizability and clinical practice should be addressed			
Generalisability	21	Discuss the generalisability (external validity) of the study results	
PRO data should be interpreted in relation to clinical outcomes, including survival data, where relevant			
<b>Other information</b>			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	

\*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.