STROBE Statement—checklist of items that should be included in reports of observational studies

Section/item	Item No	Recommendation	Reported on Page Number/Line Number	Reported on Section/Paragraph
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	Page (P)3/Line (L)41, P4,	title & abstract (method)
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	P4-5/ L52-66	abstract (method &
Introduction				
Background/ rationale	2	Explain the scientific background and rationale for the investigation being reported	P6-7/ L76-101	Introduction/ 1st-3rd paragraph
Objectives	3	State specific objectives, including any prespecified hypotheses	P7/ L102-108	Introduction/ 4th
Methods				
Study design	4	Present key elements of study design early in the paper	P8/ L121-122	Patients/ 2nd paragaph
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	P7-8/ L112-126	Patients/ 1st, 2nd paragaph
Participants	6	(a) ***Cohort study***—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up ***Case-control study***—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 ***Cross-sectional study***—Give the eligibility criteria, and the sources and methods of selection of participants	P7-8/ L112-120	Patients/ 1st paragaph
		(b) ***Cohort study***—For matched studies, give matching criteria and number of exposed and unexposed ***Case-control study***—For matched studies, give matching criteria and the number of controls per case	P11/ L175-186	Radiographic evaluation/ 2nd paragraph
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	P10-13/ L163-223	Clinical evaluation, Radiographic evaluation,
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	P10-13/ L163-223	Clinical evaluation, Radiographic evaluation,
Bias	9	Describe any efforts to address potential sources of bias	P13/L214-220	Radiographic
Study size	10	Explain how the study size was arrived at	P14/L241-247	Statistical analysis/ 2nd
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	P13-14/L225-240	Statistical analysis/ 1st paragraph

Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	P13-14/L225-240	Statistical analysis/ 1st
		(b) Describe any methods used to examine subgroups and interactions	P11/ L175-186	Radiographic evaluation/
		(c) Explain how missing data were addressed	Not applicable	Not applicable
		(d) ***Cohort study***—If applicable, explain how loss to follow-up was addressed ***Case-control study***—If applicable, explain how matching of cases and controls was addressed ***Cross-sectional study***—If applicable, describe analytical methods taking account of sampling strategy	Not applicable	Not applicable
		(e) Describe any sensitivity analyses	Not applicable	Not applicable
Results				
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	P15/L263-268	Clinical and radiographic results between knees with
		(b) Give reasons for non-participation at each stage	Not applicable	Not applicable
		(c) Consider use of a flow diagram	Not applicable	Not applicable
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	P15/L263-268	Clinical and radiographic results between knees with
		(b) Indicate number of participants with missing data for each variable of interest	Not applicable	Not applicable
		(c) ***Cohort study***—Summarise follow-up time (eg, average and total amount)	Not applicable	Not applicable
Outcome data	15*	***Cohort study***—Report numbers of outcome events or summary measures over time	P15-17/ L250-298	Results/ All of the
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	Not applicable	Not applicable
		Cross-sectional study—Report numbers of outcome events or summary measures	Not applicable	Not applicable
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	P15-17/ L250-298	Results/ All of the paragraphs
		(b) Report category boundaries when continuous variables were categorized	P15-17/ L250-298	Results/ All of the
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not relevant	Not relevant
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	P15-17/ L263-298	P15-17/ L263-298
Discussion				
Key results	18	Summarise key results with reference to study objectives	P17-18/ L301-306	Discussion/ 1st paragraph
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	P21-22/ L373-392	Discussion/ Last paragraph

Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	P18-20, L315-350	Discussion/ 3rd-6th paragraph
Generalisability	21	Discuss the generalisability (external validity) of the study results	P20-21, L351-372	Discussion/ 7-8th
Other information				
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	P24-25/ L402-427	Footnote

*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.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

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*As the checklist was provided upon initial submission, the page number/line number reported may be changed due to copyediting and may not be referable in the published version. In this case, the section/paragraph may be used as an alternative reference.