STROBE Statement—Checklist of items that should be included in reports of ***cohort studies***

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract *Line 9*
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported *Lines 34 to 42.*
Objectives	3	State specific objectives, including any prespecified hypotheses *Lines 44 to 46. The hypothesis was removed as per editorial preference*.
Methods		
Study design	4	Present key elements of study design early in the paper *Line 49 to 50*
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection *The setting (New Zealand) is described. Date ranges are described for each of the three "reporting timeframes". Follow-up varies due to the nature of the study. Lines 53 to 54 and 60 to 70.*
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Lines 71 to 75. All patients were eligible for inclusion unless their surgeon did not meet eligibility requirements*
		(*b*) For matched studies, give matching criteria and number of exposed and unexposed *N/A*
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable *Lines 77 to 99*
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 *Data source is NZJR. Lines 53 to 58.*
Bias	9	Describe any efforts to address potential sources of bias *The large size of the study and that it has near-complete data for knee joint replacements in New Zealand makes the results at low risk of bias.*
Study size	10	Explain how the study size was arrived at *This study includes all available data in NZJR that met eligibility requirements. Lines 71 to 75.*
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why *How surgeons were categorized as outliers or being within control is described in lines 82 to 86.*
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding *Lines 77 to 103.*
		(*b*) Describe any methods used to examine subgroups and interactions *N/A*
		(*c*) Explain how missing data were addressed

		Missing Oxford scores were expected given the registry targets a 20% response rate. Surgeons were not included unless they had at least one Oxford score response. Lines 72 to 74
		(*d*) If applicable, explain how loss to follow-up was addressed *The nature of using a national registry with near-complete data, and the geographic location of New Zealand, makes loss to follow-up rare. Patients would need to emigrate to be lost to follow-up when the end-point is revision. How deaths were dealt with in described in lines 64 to 65*
		(*e*) Describe any sensitivity analyses *N/A*
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 *Figure 1. Lines 109 to 114*
		(b) Give reasons for non-participation at each stage *The reasons for exclusion are discussed in the methodology and referenced in lines 112 to 113.*
		(c) Consider use of a flow diagram *Figure 1*
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders *These are presented in supplementary tables 4 to 6.*
		(b) Indicate number of participants with missing data for each variable of interest *Because surgeons were only included if they had at least one Oxford score, each surgeon had a revision rate and mean Oxford score for use in the analysis. The patient level analysis only included patients with an Oxford score.*
		(c) Summarise follow-up time (eg, average and total amount) *This is clearly defined within the methodology (lines 60 to 70).*
Outcome data	15*	Report numbers of outcome events or summary measures over time *N/A*
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 *This study uses unadjusted revision rate and Oxford score in keeping with the objectives.*
		(*b*) Report category boundaries when continuous variables were categorized *Category boundaries are included in the reporting for each timeframe. Lines 127 to 158 and 167 to 173.*
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period *N/A*
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses *N/A*
Discussion		
Key results	18	Summarise key results with reference to study objectives *Lines 197 to 209*
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 *Lines 269 to 275*
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence *Lines 277 to 280*
Generalisability	21	Discuss the generalisability (external validity) of the study results *Lines 215 to 222*
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 *Line 105*

*Give information separately for exposed and unexposed groups.

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 http://www.strobe-statement.org.