

**Supplementary Material 2.** CASP checklist for case-control studies

Study	Bechtold (2021) [51]	Cho (2021) [39]	Kenyon (2017) [32]	Kempton (2011) [50]	Otto (2013) [38]	Randelli (2014) [54]	Routman (2020) [33]	Tashjian (2018) [55]
1. Did the study address a clearly focused issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Did the authors use an appropriate method to answer their question?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Were the cases recruited in an acceptable way?	Yes	No	Yes	Yes	No	No	Yes	Yes
4. Were the controls selected in an acceptable way?	Yes	Yes	Yes	No	Yes	No	Yes	Yes
5. Was the exposure accurately measured to minimise bias?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6A. Aside from the experimental intervention, were the groups treated equally?	Yes	Yes	Yes	Yes	Yes	No	No	Yes
6B. Have the authors taken account of the potential confounding factors in the design and/or in their analysis?	Yes	Yes	Yes	Yes	No	No	No	Yes
7. How large was the treatment effect?	Insuff.	Suff.	Suff.	Insuff.	Insuff.	Insuff.	Suff.	Suff.
8. How precise was the estimate of the treatment effect?	Suff.	Yes.	Suff.	Insuff.	Insuff.	Insuff.	Suff.	Suff.
9. Do you believe the results?	No	Yes	Yes	No	No	No	Yes	Yes
10. Can the results be applied to the local population?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11. Do the results of this study fit with other available evidence?	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Total	9 (high)	11 (high)	11 (high)	8 (high)	7 (low)	4 (low)	10 (high)	12 (high)

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Study	Athwal (2016) [77]	Berthold (2021) [53]	Collotte (2021) [68]	Duethman (2020) [69]	Feeley (2014) [64]	Irlenbusch (2015) [78]	Jang (2022) [40]
1. Did the study address a clearly focused issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2. Was the cohort recruited in an acceptable way?	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell
3. Was the exposure accurately measured to minimise bias?	Yes	No	Yes	Yes	Yes	Yes	Yes
4. Was the outcome accurately measured to minimise bias?	Yes	Yes	No	Yes	Yes	Yes	Yes
5A. Have the authors identified all important confounding factors?	No	No	Yes	No	No	No	Yes
5B. Have they taken account of the confounding factors in the design and/or analysis?	No	No	No	No	No	No	Yes
6A. Was the follow up of subjects complete enough?	Yes	Yes	No	No	No	Yes	Yes
6B. Was the follow up of subjects long enough?	Yes	Yes	Yes	Yes	No	Yes	Yes
7. What are the results of this study?	Suff.	Suff.	Insuff.	Suff.	Insuff.	Suff.	Suff.
8. How precise are the results?	Insuff.	Insuff.	Insuff.	Insuff.	Insuff.	Insuff.	Suff.
9. Do you believe the results?	No	Yes	Yes	No	No	Yes	Yes
10. Can the results be applied to the local population?	No	Yes	Yes	Yes	Yes	Yes	Yes
11. Do the results of this study fit with other available evidence?	No	Yes	Yes	No	Yes	Yes	No
12. What are the implications of this study for practice?	Insuff.	Suff.	Suff.	Insuff.	Insuff.	Insuff.	Can't tell
Total	7 (low)	10 (high)	9 (high)	7 (low)	6 (low)	10 (high)	11 (high)

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Study	Kim (2022) [67]	Lopiz (2021) [34]	Mahendraraj (2021) [52]	Rhee (2019) [49]	Roche* (2013) [66]	Simovitch (2007) [65]
1. Did the study address a clearly focused issue?	Yes	Yes	Yes	Yes	Yes	Yes
2. Was the cohort recruited in an acceptable way?	No	Yes	Yes	Yes	Yes	Yes
3. Was the exposure accurately measured to minimise bias?	Yes	Yes	Yes	Yes	Yes	Yes
4. Was the outcome accurately measured to minimise bias?	Yes	Yes	Yes	Yes	Yes	Yes
5A. Have the authors identified all important confounding factors?	No	Yes	Yes	Yes	Yes	Yes
5B. Have they taken account of the confounding factors in the design and/or analysis?	No	No	Yes	No	No	Yes
6A. Was the follow up of subjects complete enough?	Yes	No	Yes	No	Yes	Yes
6B. Was the follow up of subjects long enough?	Yes	Yes	Yes	Yes	Yes	Yes
7. What are the results of this study?	Suff.	Suff.	Suff.	Suff.	Suff.	Suff.
8. How precise are the results?	Insuff.	Suff.	Insuff.	Insuff.	Insuff.	Insuff.
9. Do you believe the results?	Yes	Yes	Yes	Yes	Yes	Yes
10. Can the results be applied to the local population?	Yes	Yes	Yes	Yes	Yes	Yes
11. Do the results of this study fit with other available evidence?	No	Yes	No	Yes	Yes	Yes
12. What are the implications of this study for practice?	Insuff.	Suff.	Suff.	Suff.	Suff.	Suff.
Total	8 (high)	12 (high)	12 (high)	11 (high)	12 (high)	13 (high)

CASP: Critical Appraisal Skills Program, Suff: sufficient, Insuff: insufficient.

\*The Bone & Joint Journal.