

## OpenEpi, Version of December 2003

### *Test Results for Matched Case-Control (MatchCC) Module*

| Dataset # | Left Side | a,b,c,d<br>Case/Control<br>++, +-, -+, -- | Compared with  | Result  |
|-----------|-----------|---|--|---|
| MCC1      | Cases     | 5,30,10,5                                 | Gerstman, B, Stat Primer, p. 14.3, 14.4.   | McNemar with cc, p value, OR and Conf. Limits agree   |
| MCC2      | Cases     | 3,7,1,9                                   | Rosner, Fundamentals of Biostatistics, 5 <sup>th</sup> ed, Duxbury, 2000, p. 383                             | Fisher exact agrees.  |
| MCC3      | Cases     | 510, 16, 5, 90                            | Rosner, Fundamentals of Biostatistics, 5 <sup>th</sup> ed, Duxbury, 2000, p. 383                             | McNemar with continuity correction and p value agree.   |
| MCC4      | Cases     | 12,43,7,121                               | GraphPad. Schlesselman, Case-Control Studies, Oxford, 1982, p. 209-11<br>PEPI—Abramson and Gahlinger, v.4.0. | Fisher Exact and Fisher Exact confidence limits for OR agree confirmed by Graphpad and PEPI. PEPI also gives midP values and these agree.<br>Approximate confidence limits for Pair-matched odds ratio differ among the sources and with MatchCC. I believe MatchCC must use the same method as Gerstman, above, and the others use slightly different formulas. In any case the exact results are to be preferred.<br>McNemar agrees with all. |
|           |           |   |  |   |

By Andy Dean. Agreement is considered satisfactory if the first two significant figures agree, when a number, such as a p-value, is small.

Conclusions: The exact results from several sources match those of MatchCC very well. The approximate confidence limits for the Odds Ratio appear to have several different

methods in different packages, and it seems preferable to use the exact results. MatchCC agrees with Gerstman for these limits. All sources seem to agree with MatchCC on the McNemar with continuity correction, and most do not give a McNemar without continuity correction.

MatchCC seems ready for release with the usual disclaimers and advice to check results against other resources.