

**Table 6.** Evaluation of biomedical literature

Title	<ul style="list-style-type: none"> <li>• Succinctly and unambiguously (specific) describes the subject of the study.</li> </ul>
Abstract (Summary)	<ul style="list-style-type: none"> <li>• Provides the following information, in this order: background and purpose (or objective, hypothesis), methods (kinds and numbers of animals and experimental design), results, and conclusions.</li> </ul>
Introduction (Why was study done?)	<ul style="list-style-type: none"> <li>• Adequately states why the study was done (purpose, objective, question or hypothesis).</li> </ul>
Materials and Methods (What was done?)	<ul style="list-style-type: none"> <li>• Animals described sufficiently (source, species, strain, sex, age, weight).</li> <li>• Animals appropriately conditioned or acclimated prior to experimentation.</li> <li>• Housing conditions (caging, bedding, feed, water) described sufficiently.</li> <li>• Environmental conditions (temperature, humidity, light cycle, air changes, and pressure) described sufficiently.</li> <li>• Microbiologic status of animals described.</li> <li>• Names of products or equipment and their manufacturers, including address (city and state), provided.</li> <li>• Approval of animal studies by an institutional animal care and use (or similar) committee indicated.</li> <li>• Studies conducted humanely.</li> <li>• Experimental design features: <ul style="list-style-type: none"> <li>– Explanation of how the number of animals used was determined is provided.</li> <li>– Rationale for the study design provided.</li> <li>– Random assignment—indication of use of a formal method to ensure randomization rather than haphazard selection.</li> <li>– Control group(s) the same as experimental group(s) except for variable being tested.</li> <li>– Sufficient description of placebos, sham procedures, or alternative treatments received by control group.</li> <li>– Individual(s) evaluating outcome unaware of (blinded to) groups to which subjects assigned. If there are multiple evaluators, reconciliation of differences in evaluation are explained. Need for training to evaluate data is specified.</li> <li>– In studies linking an infectious agent to a disease syndrome, all other agents that can cause such a syndrome have been accounted for.</li> <li>– In studies in which infectious agents are inoculated, animals are free of the inoculating agent according to appropriate tests.</li> <li>– Levels of severity defined and basis for definition provided (for example, mean and standard deviation).</li> </ul> </li> <li>• Methods presented in sufficient detail to permit replication.</li> <li>• Statistical analyses: <ul style="list-style-type: none"> <li>– Parameters of estimation (confidence interval) used rather than hypothesis testing (<i>P</i> value).</li> <li>– Comparison(s) made and the statistical procedure(s) used to make them are described.</li> <li>– Parametric tests used for normally distributed data; non-parametric tests used for non-normally distributed data.</li> <li>– Tests are indicated as being one- or two-tailed.</li> <li>– Alpha level indicated for <i>P</i> values.</li> <li>– Tests are referenced</li> </ul> </li> </ul>
Results (What was found?)	<ul style="list-style-type: none"> <li>• Internally consistent—results presented for all methods described, and methods presented for all results described.</li> <li>• All animals are accounted for.</li> <li>• Statistical analyses: <ul style="list-style-type: none"> <li>– Normally distributed data presented as mean, SD and range. Non-normally distributed data presented as median and interquartile (25th–75th quartile) range.</li> <li>– Adjustment or control for confounding performed if indicated. The test statistic, degrees of freedom and exact <i>P</i> value given.</li> <li>– When data are pooled, ensure that it has been statistically compared beforehand.</li> <li>– If no significant difference found, was sample size adequate to detect a difference?</li> </ul> </li> <li>• Quantitative data converted to qualitative data?</li> <li>• Data in text more appropriately presented as figure or table?</li> </ul>
Discussion (What does it mean?)	<ul style="list-style-type: none"> <li>• Limitations of the study are described.</li> <li>• Conclusions are supported by the data.</li> <li>• Sufficiently describes the importance, significance, implications, and generalizability of findings.</li> <li>• Adequately puts findings in the context of previously published studies.</li> </ul>
References	<ul style="list-style-type: none"> <li>• Current</li> <li>• Appropriate</li> </ul>
Figures and tables	<ul style="list-style-type: none"> <li>• Is figure or table necessary, or could data have been presented in the text just as well?</li> <li>• All animals are accounted for.</li> <li>• Data summarized rather than presented as individual values.</li> </ul>