Reviewer's report

Title: Principles of Cartilage Tissue Engineering in TMJ Reconstruction

Version: 1 Date: 8 August 2007

Reviewer: James Mason

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The authors need to correct misspellings, typos, and incorrect tense usage throughout the document. These are so numerous as to make the manuscript unacceptable as presented.

2. Stylistically, there is overuse of the word “therefore” throughout the document but especially in the Intro. Eliminate these where possible.

3. This review focuses on “principles” of cartilage engineering and is a rather cursory topical review as the title implies rather than an in-depth literature review of current approaches to cartilage engineering. As such, the manuscript is acceptable as a very general review of the principles involved. However, in the last paragraph of the review, a discussion regarding which stem cells are optimal for use in future clinical treatment is poorly justified and the reference to gene therapy as a topic is also inadequately described and referenced. Consequently, it would be better not to opinion on these topical areas which are presented much like an afterthought compared to the rest of the manuscript. The authors should simply state that these are areas of much current research interest and reference the statement with one of numerous reviews that focus on stem cells and/or gene therapy approaches to cartilage engineering. These areas are simply not covered in any real detail in the current manuscript.

4. The authors should ensure that all statements are appropriately referenced throughout the manuscript (one example- in the last paragraph, support with a reference that adult stem cells differentiate into chondrocyte-like cells).

5. Authors should verify that they really mean in-ovo injections and if so, describe the experiment and its conclusions better.

6. The authors might also want to comment on the practicality of some of these approaches to actually be feasible for wide-spread use/commercial development (i.e. how feasible is it to give adult patients “foreign” stem cells such as ES or cord blood cells and how will the immune system respond to such cells). There are numerous other problems with the approaches described in the final paragraph that are simply not discussed yet are most pertinent to ever developing them into practical therapies.
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.