Author’s response to reviews

**Title:** Medical-grade polycaprolactone scaffolds made by melt electrospinning writing for oral bone regeneration – a pilot study in vitro

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Reviewer reports:

Dorina Lauritano, DDS (Reviewer 1):

Thank you for the information about the correct responding process! Comments for the authors will not be uploaded as an attachment anymore.

Masako Fujioka-Kobayashi (Reviewer 3):

Thank you for your supporting comments! We understand your point of concern about the single set of scaffolds for each testing. This is simply owed to the limited number of scaffolds which we could access. As you said, a strong conclusion is, of course, not possible. We expressed this clearly – also as you already mentioned – in our conclusion section. An increase of sample number would be very desirable, but cannot be performed, because we have no more of these specific samples and due to the elaborate fabrication process, we will not be able to obtain such
samples in sufficient quantity in the near future for repetition. Nevertheless we think that a proof of principle could be seen.

Cell number and cell viability were not measured on day one because due to preliminary experience in our work group with the cell lines, we did not expect meaningful results at that stage. Cells are seeded in a spherical morphology and take time to spread and adhere to surfaces, especially when they are not flat and even. As the “danger” of still spherical cells falling through the mesh of the scaffolds at their removal on day 1 seemed too big, we decided to not use another set of precious scaffolds (see above) for these testing.

Rohana de Silva (Reviewer 4):

Thank you for your supporting comment.

Naresh Kumar, PhD (Reviewer 5):

Thank you for the information about the correct responding process! Also thank you for the encouraging feedback!

Michael Edelmayer, MD, DDS (Reviewer 6):

Thank you for your helpful comments! We do agree, that it would have been very desirable if sample number was higher. Unfortunately no higher number of samples was available at the time of the study. We also agree that the power of the study is therefore not the highest. Nevertheless the aim of the pilot study was a proof of principle which we clearly expressed in the title and the main text. It is also undisputed, that further investigations with higher amounts of samples have to follow, which was also stated in the conclusion section (l 351).

Jamil Awad Shibli (Reviewer 7):

Thank you for your valuable corrections and your assessment considering the publication!

Bernhard Pommer (Reviewer 8):

Thank you for the information about the correct responding process! Comments for the authors will not be uploaded as an attachment anymore.
Akira Hasuike (Reviewer 9):

Thank you for your valuable comments.

#1 Our pilot study is one - of many more to follow – steps towards a membrane for GBR. In the first step we evaluated the suitability of different types of scaffolds for the elaborate regeneration of bone tissue. With fiber spacings of up to 500 μm we did not expect an actual cell occlusivity in this step for the scaffolds and that is why we did not assess epithelial or fibrous cell invasion in particular. Cell occlusivity, and therefore actual suitability for GBR, will be part of further investigation – the second step. A short discussion to this was added, as suggested (l 268).

#2 As you mentioned, pH values were examined to roughly assess solubility and potential beginning of degradation in the initial stage of cell culture. Especially for PCL, longer degradation times are known, so an actual degradation in this short time is not very probable. Nevertheless, we evaluated pH values to assess milieu changes in the immediate surrounding of the scaffolds to exclude adverse changes in the environment. Due to your remark, we emphasized this fact even more in the discussion section (l 315)

#3 The „x“ in line 246 was of course added. We excuse for this mistake.

#4 This is also a very good point. The line was deleted from the results section and implemented into the discussion (l 298)

#5 “scaffold” means MEW PCL scaffolds burdened with glass ring/beads, without any cell settlement. This was further clarified in the caption (l 511).