Author's response to reviews

Title: Hygienic safety of reusable tap water filters (Germlyser(R)) with operating time of 4 respectively 8 weeks in a haematological oncology transplantation unit

Authors:

Georg Daschlein (daeschlein@uni-greifswald.de)
William H Kruger (william.krueger@uni-greifswald.de)
Christian Selepko (csleplko@web.de)
Niels Rochow (rochow@uni-greifswald.de)
Gottfried Dolken (dolken@uni-greifswald.de)
Axel Kramer (kramer@uni-greifswald.de)

Version: 2 Date: 2 May 2007

Author's response to reviews: see over
Dear Editor,

we wish to thank you for your constructive and helpful reviewing. We have considered the reviewer’s suggestion as follows:

In the process of corrections we decided to omit one figure (figure 1 in the first version) and we partially completely revised language and text with the support of a native speaker.

**Reviewer’s report**: Ralf-Peter Vonberg

- **Methods**: Why did the authors test 3 different types of tap water filters? That should be explained.

  The filter principle was identical, only the encasement and outlet differed. We have explained this shortly in the abstract and more detailed in the method.

- **Results**: The last paragraph of the result’s section sounds like the results of these different filter types were combined in figures 1, 2, and 3. Why did the authors pool that data?

  The data were pooled because the filter principle, the filtration and test performance were the same.

- **Results**: Were there differences in the quality of water due to nano silver coating and/or a silver outlet? Do the authors recommend the same usage interval for all filters regardless of the type of the filter?

  There were no significant differences, we have summarized the results in a new table (table 6), as consequence the recommendation is independently of the filter type.

- **There is no statistical analysis in the manuscript. Were there significant changes in the quality of water over time?**

  There were no significant changes; we have added this information in the manuscript.

- **Discussion**: The authors showed that automatic reprocessing was superior to manual reprocessing. However, chalky spots of splash water on the outer filter body were noticed and disinfection by wiping was performed weekly. How do the authors judge the role of retrograde contamination during use in their trial? Were the medical and cleaning personnel on the ward familiar with the use of water filters?

  It is correct, the retrograde contamination is given, but the thresholds for the water quality are fulfilled. For the correct use of the filters, we implemented specific training for the cleaning staff and users. At every filter site, a warning sign with short instructions was posted. We have added this fact to the manuscript.

- **Discussion**: The time frame of the experiments was 31 weeks. How do the authors know that filters are usable over a two year time period when reprocessed in a washer disinfector?

  These data were generated in our neonatology intensive care department (with 13 filter sites), with weekly changing of filters and continuous monitoring of filter safety after each reprocessing, in keeping with the manufacturer’s instructions. The manufacturer requests a leakage test after each reprocessing of a filter during its service life (52 x reprocessing are guaranteed). We have explained this in the new version of the manuscript.

**Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)**

We have corrected these mistakes.

- **Abstract**: More detailed information should be given, e.g. 1) there were different filter types tested in various trials, 2) manual reprocessing showed to be insufficient in trial #1, 3) There were at least 3 samples in trial #3 and 5 samples in trial #4 exceeded 100 cfu/ml.

  We have added these 3 points to the abstract.
Page 7-Results of trial #1: "...in one filter we differentiated x prominent slimy colonies ..." How many is "x"?

We apologize that we did not replace the x with the correct number in the first version and corrected this mistake in the current version.

Discretionary Revisions (which the author can choose to ignore)

- The number of the corresponding trial is mentioned in the legend of table 2 - it might be helpful to add that information to the legends of the tables 3 and 4 as well.

The reviewer’s suggestion has been implemented in the revised version.

- For an international readership, reference #20 needs to be translated in English.

The reviewer’s suggestion has been implemented in the revised version.

Reviewer’s report: Kevin G Kerr

Major Compulsory Revisions

My principal concern about this manuscript is that it is confusing for the reader. The authors are describing experiments with three types of filter over differing time periods for a range of microorganisms at different temperatures of incubation in the laboratory. I feel the paper would be rendered more "user-friendly" if a table, summarising the experimental protocols used for each of the three filter types could be inserted (this would also permit shortening of the materials and methods section). More informative legends to the existing tables and figures would also greatly assist the reader. For example table 3 makes no reference to which filter trial is being discussed. There is much use of "respectively" (please do not use the abbreviation "respec.")This can be confusing for the reader e.g. "For trial 3 resp 4 filters of type 2 resp. type 3 were used over 4 resp. 8 weeks."

We are thankful for this helpful critic. We have rewritten these parts in a clear diction including a table (Table 1).

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Binomials of microorganisms should be italicised
2. p3; line 6: planktonic for planctonic
3. P3; line 7: bacteria for bacteria's
4. P3; line 11: Barrier for Multibarrier

The reviewer’s suggestion 1 top 4 have been implemented in the revised version.

5. Materials and methods - please clarify what the outlet is in filter type 3. (an illustration may help the reader, here).

We have described the filter types more detailed, instead of photograph.

6. Do the manufacturers give any indication as to the frequency of filter changes? Does the authors’ recommendations on extended life of filter invalidate manufacturers' warranties? The primary instruction of the manufacturer was a seven-day interval.

The results of our study have been considered in an actualised version of the user guide (4 weeks for high risk wards and 8 weeks for other wards).

7. Similarly the authors disinfected the filters weekly by wiping the filter body/outlet with propanol. Is this in accord with the manufacturers’ recommendations or was this part of the authors’ protocol only?

It was a part of the study protocol; we have explained this in the revised version.
The reviewers suggestions 8 to 14 have been implemented in the revised version of the manuscript.

15. Do the manufacturers recommend leak testing after reprocessing?

Yes, we have added this fact in the manuscript.

Please notify us, if you feel that further modifications are necessary.

Sincerely yours,

William H. Krüger