

Peer Review File

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Reviewer A

In this letter to the editor Kurman and colleagues calculate the costs of reusable bronchoscopes in the ICU. Thereby, they conclude that the economic costs of reusable bronchoscopes are higher than previously assumed. In general, the manuscript is well written and contains interesting data. There are some minor points which should be addressed prior publication:

- During the 3-years period total repair costs were \$280,239. Consecutively, repair costs would be around \$ 62 per case. It would be very interesting to know if the authors could estimate the costs for reprocessing a bronchoscope.

Thank you for this calculation and suggestion.

The repair cost per case has been added to the end of the second paragraph in the “Data” section.

Many factors enter into the cost of reprocessing a bronchoscope, including PPE, cleaning devices, detergents, and personnel. We are actively trying to quantify these areas and hope to present these data in a future publication. Text regarding this lack of data has been added to the last paragraph of the “Data” section and the last paragraph of the “Discussion” section.

- Do the authors have an idea for how many years in average a reusable bronchoscope can be used?

Per the manufacturer of our RFB, the recommend replacement age is 5 years. This is a “best practice recommendation” based on internal data, since there are no known industry benchmarks available. This is acknowledged in the second paragraph of the “Discussion” section.

Reviewer B

The paper of J Kurman and B Benn reports the cost of repairs and maintenance of their reusable bronchoscopes in their ICU department during a 3 year-period. This cost of this maintenance is very high (>280,000\$) for 4,500 bronchoscopies and the authors give some explanations. Another cause to be discussed is the mechanical stress of the bronchoscopes in endotracheal tubes not seen in regular bronchoscopies out of ICU.

This is an excellent point, and one, admittedly, that we had not previously considered. It has been added to the text in the second paragraph of the “Discussion” section.

To know the real cost of each bronchoscopy, I suggest to add the cost of purchasing each bronchoscope (pondered by their lifespan) and the true cost of disinfection (disinfectant, washing machine and personal salaries...) By adding all these direct and indirect costs, it could be possible to estimate the true cost of each bronchoscopy in their ICU to underline the benefit of single use bronchoscopes. To complete these data will reinforce the message.

Thank you very much for your comments and suggestions. We agree; the true cost of RFB encompasses more than just repair costs. As such, we have modified the title of the manuscript to reflect its focus on repair costs. The revised title is, "Repair Costs of Reusable Bronchoscopes in the Intensive Care Unit."

Many factors enter into the true cost of a bronchoscopy. Beyond the initial purchase cost of the bronchoscope itself, there is the ongoing cost of reprocessing a bronchoscope, including PPE, cleaning devices, detergents, and personnel. We are actively trying to quantify these areas and hope to present these data in a future publication. Text regarding this lack of data has been added to the last paragraph of the "Data" section and the last paragraph of the "Discussion" section.

Please correct the name of C Chateauvieux (a French name meaning "old castle") written 2 times (line 50 and 69) Chateauvieux

Thank you for bringing this to our attention. This has been corrected.

To be acceptable, this paper should add complementary data on the costs of bronchoscopies (purchasing cost, disinfection costs) in order to estimate accurately the real cost of each bronchoscopy.

We agree, but are unable to provide these data at this time. As such, we have modified the manuscript's title and content to reflect the focus solely on repair costs. Text has been added to the end of the first paragraph in the "Discussion" section.

Purchasing costs vary widely among institutions based on a variety of factors. Additionally, they are often subject to non-disclosure agreements, as is the case with our own institution. Thus, we are unable to reveal these details.

Reprocessing costs are beyond the scope of this manuscript. We are trying to quantify these costs, but it is a laborious endeavor and one that is taking significantly longer than expected. We hope to eventually cover this area in a future publication.

Reviewer C

Dear authors,

I appreciate your attempt to give an authentic insight in your repair costs. As these data is the basis of your article, the title is misleading: Your data focus only on repair costs, not on total economic costs, which would include maintenance, staff, saved waste in comparison to single use bronchoscopes etc. In conjunction, I want you to discuss whether 62 \$ per use (280000\$ repair costs in 4500 usages) are really that bad in comparison to SUFB. How much do you / an US-hospital pay per SUFB is an important, but missing information. As a non-US-reader, I cannot estimate if 62\$ is bad or good. Apart from this, I appreciate that you emphasize the context of ICU. Maybe in a pulmonary diagnostic unit, the superior image quality of RFBs counts more than potential cost savings of SUFB.

Thank you very much for the feedback. Purchasing costs of SUFB vary widely among institutions based on a variety of factors. Additionally, they are often subject to non-disclosure agreements, as is the case with our own institution. Thus, we are unable to reveal these details, although we agree that they are key to a true comprehensive cost comparison between RFB and SUFB.

In the scope of medical equipment costs, \$62 per case is miniscule, but when multiplied by the large number of cases performed, the cost starts to become more substantial, especially when you consider that there are zero repair costs associated with the alternative option.

Text has been added to the end of the first paragraph of the “Discussion” section to address these comments.

Reviewer D

This manuscript evaluated the economic cost of RFB in the ICU. During 3 years, approximately 4,500 flexible bronchoscopies were performed at ICUs with 9 RFB. The RFB were repaired 36 times, and the total repair cost was \$280,239 (average \$7,636 per one repair), which was much greater than previously reported. This study suggested that the use of RFB is more costly than the use of SUFB at high volume ICUs. This manuscript is well written, and will provide useful real-world data for clinicians.

Thank you very much for the concise summary and kind words. We hope others will benefit from the insight this publication provides.