

## Response Letter to the editor

Sir,

We thank the author Hewson<sup>1</sup> for his interest in our article<sup>2</sup> and his comments.

Patient-led propofol sedation in various context has repeatedly been shown to be a useful method for sedation regarding the clinical outcome. By the addition of a health economic perspective, our results strengthen this conclusion.

In our article, based on two randomized controlled studies, we did not measure time from start of sedation to start of procedure. Instead, we added 5 minutes for the start/preparation respectively completion/dismantling of the procedure (10 minutes in total) to the measured procedural time. Our main finding that PCS is a cost-saving method was primarily based on reduced costs for hospital stay and avoidance of aborted procedures that had to be repeated.

Procedure time for Endoscopic retrograde cholangiopancreatography (ERCP) started and ended upon insertion and extraction of the endoscope. Before the procedure started, patients were given topical pharyngeal anesthesia, placed in a prone position with supplementary oxygen nasally. The patients started the administration of propofol using the PCS device as soon they were positioned correctly. Meanwhile the patients reached an adequate depth of sedation, necessary equipment for the procedure was prepared.

Before the flexible bronchoscopy (FB) procedure started, patients were placed in a back position, connected to the surveillance monitor and given supplementary oxygen nasally. The procedure start was defined as initiation of sedation parallel with administration of local anesthetics in nostrils and oropharynx. The patient continued to use the PCS during the time for preparation of equipment needed during the procedure and for the local anesthetic to have optimal effect. Upon insertion of bronchoscope, adequate depth of sedation had been reached without delaying that additional local anesthetics with spray-as-you-go technique was given on vocal cords and in trachea/bronchi whereby the procedure continued.

In the above described clinical context of PCS during ERCP or FB procedures, the total mean per-procedure time was between 48 minutes (ERCP) and 49-53 minutes (FB), including 10 minutes during start/end of procedure. Procedure start was not delayed due to insufficient depth of sedation of the patient. The time before

adequate depth of sedation is reached, described by Hewson as a "slower onset," was used in parallel for procedure preparations.




The patients in both studies<sup>3,4</sup> had adequate and sufficient sedation upon insertion of endoscope and during the procedure. The post-procedural assessment by the patients using PCS in both studies showed significantly higher satisfaction of the procedure compared with patients administered midazolam. Patients with PCS during ERCP had higher preferences for the sedation, if ERCP was to be repeated in the future. In our study setup, when procedure with midazolam sedation failed, it was successfully rescued with PCS during a repeated attempt. From the perspective of the interventionist the ease of procedure was improved when using PCS during ERCP.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

### AUTHOR CONTRIBUTION

BG and LN had full access to all the data in the study and take responsibility for the integrity of the data and accuracy of the cost analysis. BG, LN, LB, AN, and FS contributed substantially to the study design, cost analysis and interpretation, and writing of the manuscript.

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