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‘Yes, we can’ utilize the Hawthorne effect to improve postoperative analgesia

Reply from the authors
Editor—We thank Drs Lehmann and Nowak for their ideas concerning the suggested Hawthorne effect (HE) during the implementation of the quality management system (QMS). They asked if HE can be measured in that setting and if it can be used to improve the treatment of postoperative pain (POP).

Trying to interpret the improvement of POP after QMS implementation in our study,1 we have discovered (for ourselves, as anaesthesiologists that HE has been used in industrial psychology for several decades as a strategy to enhance human performance and thus to increase industrial productivity.1 By definition, HE occurs in the ‘situation in which an individual’s behaviour is altered by the observation itself’. This feature has been actively used by a variety of modern QMS, mainly in the form of regular audits (‘observations’ of the individuals), who are intended either to keep their performance on a high level or even to improve it further. In the case of our QMS, the ‘continuous’ HE is enabled by several lines of audits (‘observations’ of health practitioners): (i) monthly audits within each surgical department, performed by the nurses (pain task force) from the same department; (ii) audits of all surgical departments, performed by trained pain nurse and quality management specialist twice a year; and (iii) external annual audit, performed by the employees of the German quality and safety monitoring agency, TUV Rheinland.

However, the evaluation of HE in a longitudinal study, as suggested by Lehmann and Nowak, would be difficult in our case. All three external annual audits, performed by TUV Rheinland after implementation of QMS, demonstrated the unchanged level of quality in the treatment of POP. This fact supports the suggestion of continuous HE due to above-described measures (i)–(iii); on the other hand, it makes it difficult to evaluate the genuine size of HE in the longitudinal study (if the HE is maintained on the same level).

We also agree that the motivation of involved health practitioners might influence the clinical effect of QMS, that is why various organizational and psychological measures were introduced in order to enhance the motivation and to keep it on the same level—for example, quarterly meetings of pain task-forces, their education to ‘pain mentors’, regular media interviews about the progress of QMS, etc. The level of practitioners’ motivation is being evaluated once a year using the short questionnaire—the results of these questionnaires will be published soon along with the data about long-term effect of QMS.

Declaration of interest
None declared.

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Technology comparison studies require precise reference controls to be valid

Editor—We read the article by Dr Nordström and colleagues reporting their findings derived by two different technologies with great interest.1 There appear to be a number of methodological issues which draw cautionary comment as the authors attempt to undertake technology assessment and make conclusions by attempting a validation study using a technology known to lack precision as the gold standard and reference. The issues raised have been previously eloquently reviewed by Critchley and Critchley,2 and further elaborated on by Cecconi and colleagues.3

The authors argue that because the Oesophageal Doppler (CardioQ) was ‘validated in clinical practice and been shown to reduce post op morbidity and LOS in colorectal surgery’ that it would be a suitable reference to undertake analysis of the performance of the LiDCOrapid. There are a number of issues when using Oesophageal Doppler (CardioQ) in terms of precision and repeated measurements. These technical limitations are fully discussed in the review article by Schober and colleagues.4 We feel that two intrinsic limitations are likely to be highly relevant to the results and interpretation of this study.