vacaine, 10 µg of fentanyl, and 0.2 mg of preservative free morphine at the L2–3 interspace, which was induced with a 25-gauge Pencan needle with the patient in the sitting position. Immediately after the assumption of supine-left-uterine-tilt position an “asymmetric” (a T4 and a T2, on the left and right side, respectively) sensory level of spinal anesthesia with a “window” of unaltered sensation in the mid abdomen, as determined by pinprick, and incomplete motor block of the lower extremities, was reported by the anesthesia resident. Re-evaluation of these findings by the attending anesthesiologist revealed a T10 sensory block (at that time), and upon further questioning the patient admitted to having undergone “cosmetic” breast surgery. Several minutes later the spinal anesthesia reached a T4 sensory level (posterior axillary line) and uneventful abdominal delivery followed. In conclusion, the presumed “asymmetric fast-onset high sensory level” of spinal anesthesia was attributed to the post-mammoplasty breast skin hypoesthesia.

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- 2 Reisner LS, Lin D. Anesthesia for cesarean section. In: Chestnut DH (Ed.). *Obstetric Anesthesia: Principles and Practice*. Mosby: St. Louis; 1999: 465–92.

PDA's: are we there yet?

To the Editor:

VanDenKerkhof *et al.*¹ present a fascinating study into the many benefits of personal digital assistants (PDAs) in the clinical setting. I was involved in setting up a PC-based database for anesthetic interventions in a UK maternity hospital. Electronic data capture proved to be much more effective than the use of paper. However, I encountered many problems with the clinical use of PDAs and I would be interested to know of the authors' approach to these.

1. The synchronization process with the PC does not always go smoothly. It is noteworthy that ten sets of study data were lost through synchronization problems.

2. The touchscreens of modern PDAs are very fragile, a colleague cracked the screen of his PDA on the clip of his pager, rendering the PDA useless. It would be naïve to assume the same level of care and attention being shown to a departmental PDA as to a personal one.

3. Since the trial was separate from the acute pain management service round, when brought into full service, how is data transferred to the patient's notes for the patient's care team to review at the ward level?

I have recently worked on a maternity unit where they attempted to use a PDA for data collection, but this was discontinued due to problems one and two outlined above.

Whilst many anesthesiologists in the UK have been keen advocates of PDAs for personal use, I suspect that the technology may not yet be advanced or robust enough for institutional use.

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Reference

- 1 VanDenKerkhof EG, Goldstein DH, Lane J, Rimmer MJ, Van Dijk JP. Using a personal digital assistant enhances gathering of patient data on an acute pain management service: a pilot study. *Can J Anesth* 2003; 50: 368–75.

REPLY:

We thank Dr. Con for his comments on our article.¹ We respond point by point:

1. We agree that synchronization problems can arise during the downloading process, however, aside from the initial problem in our pilot study, which was related to the structure of the database rather than the synchronization process itself, we encountered no synchronization problems. In a subsequent study, out of 45 assessments we encountered one instance of the personal digital assistant (PDA) freezing during an assessment,² and in another study, out of 360 patient-completed questionnaires (60 on each, a PDA, a Tablet and a Kiosk, and 180 on paper) we encountered two synchronization failures with the PDA and no problems on either the Tablet or the Kiosk.³

2. We encountered no difficulties with the PDA screens during the pilot study; however, the PDAs have been dropped on several occasions over the past three years and the touch screen cracked on one occasion.

3. In our subsequent study where patient assessments were captured on a PDA during acute pain management service rounds, the assessments and orders were sent to a printer using infrared technology.² Printed labels, which had been approved by both patient records, and pharmacy and therapeutics, were affixed to the patient's chart in place of written notes and orders.

Subsequent to the above-mentioned studies, a wireless infrastructure was implemented in our institution.⁴ Wireless technology appears to provide improved security of patient data as no data is stored locally, improved