

Letter to the Editor

Re: Monga et al: Forearm compression by laparoscopic hand-assist devices. *J Endourol* 2004;18:654–656.

To the Editor:

In their well-designed study, Monga and associates investigated forearm compression by current devices for hand-assisted laparoscopic surgery (HALS). The data served as a springboard for a discussion of the physical problems associated with HALS.

There are difficulties, including forearm compression, inherent in the devices themselves. The authors' finding that the Gelpert and LapDisc are the more compressive of the current devices is consistent with my subjective experience. The difference from the other devices in this regard is quite noticeable, although I do not find it that bothersome. The Handport demonstrated the least compression, but it, like the Pneumo Sleeve, requires a separate sleeve and is somewhat cumbersome to use. The newest device, the Omniport (distributed by Weck), was apparently not yet available at the time of this study. Subjectively, this device produces less compression of the arm than the Gelpert and LapDisc. In addition, the Omniport is most tolerant of a fascial incision that is made too large or stretches, minimizing leak of pneumoperitoneum. The major disadvantage of the Omniport is that, unlike the Gelpert and LapDisc, it cannot maintain the pneumoperitoneum without a hand in place.

The ergonomics of the surgeon during HALS, irrespective of the device chosen, poses more difficult problems. The ergonomic difficulties reported in a prior survey (reference 1 in the article) were, as pointed out by the authors, related to laparoscopy without hand assistance. As much of a boon to urologic laparoscopy as hand assistance has been, it has definitely NOT been beneficial in terms of ergonomics; many of the physical pains described in that survey may well have become

even more prevalent with the advent of HALS. To be sure, there may be a few ergonomic advantages of hand assistance, including abbreviated operating time and less need for use of awkward laparoscopic instruments, but overall, the impact has been a negative one. To take full advantage of HALS, the intra-abdominal hand is required to take a variety of odd positions that strain the hand, wrist, forearm, and shoulder. The intense finger manipulation during certain portions of a procedure can be physically challenging to maintain. Tetany and spasms can occur until one gets used to the positions and manipulations, particularly during long and challenging procedures. I am exhausted if I have to do two tough procedures in a row as the primary operator; fortunately, that is a rare occurrence now that we have integrated HALS into our training program.¹

Although excellent urologic laparoscopic outcomes can be achieved without hand assistance, many (I include myself) feel that for selected procedures, HALS, in the first few years of the 21st Century, still offers the best combination of minimal invasiveness and expediency. I very much look forward to the day when laparoscopic instruments—including robotics—advance to the point that they can be as effective as or more effective than HALS for the majority of practitioners. At that time, I will be able to take my hand out of the abdomen for the last time!

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REFERENCE

1. Hollenbeck BK, Seifman BD, Wolf JS Jr. Clinical skills acquisition for hand-assisted laparoscopic donor nephrectomy. *J Urol* 2004; 171:35–39.