A hemodialysis patient with the use of only his left arm wanted to switch to peritoneal dialysis. The Stay-Safe continuous ambulatory peritoneal dialysis (CAPD) system (Fresenius Medical Care, Bad Homburg, Germany) appeared to be a possible solution. The goal was to train the individual to perform CAPD independently.

The Stay-Safe dialysis system was chosen because of its single connection. The device uses a technology that inserts a pin into the lumen of the patient’s catheter extension set, sealing and protecting the catheter from contamination before it is disconnected from the disk. The system also has an organizer: it holds the control dial that guides the patient in a systematic and linear fashion through the treatment steps from drain to close, making the system easy to learn and use.

The patient learned quickly and felt confident about the procedure. He was able to safely perform the treatment independently.

Key words
Continuous ambulatory peritoneal dialysis, physical limitations, Stay-Safe system

Introduction
A 55-year-old hemodialysis patient with the full use of only his left arm wanted to switch to home dialysis. Many years earlier, his father had been one of our home patients, performing home hemodialysis with the assistance of his wife. That approach was not an option for the current patient, because his wife works full time, and he wanted to be independent. We tried several different continuous ambulatory peritoneal dialysis (CAPD) products, but he had problems with the clamps and connections. The Stay-Safe CAPD system (Fresenius Medical Care, Bad Homburg, Germany) appeared to be a possible solution.

The patient’s right arm is affected by Erb–Duchenne palsy, an injury at birth to the brachial plexus, a network of nerves that provide movement and sensation to the arm, hand, and fingers. Signs and symptoms of Erb–Duchenne palsy are paralysis and loss of feeling (1). The patient’s affected arm exhibits a bent wrist and straight fingers, and a slight turn; these characteristics make it difficult for him to raise his right hand above the waist, to turn that hand palm up, or to extend the wrist. Although a contracture of the joint is evident, and the arm is noticeably smaller because of decreased use, the patient is able to use it to steady equipment.

The goal was to train the patient to perform CAPD independently.

Materials and methods
The Fresenius Stay-Safe dialysis system was chosen because of its single connection, which reduces by 50% opportunities for exposure to airborne pathogens and touch contamination (2). The device uses a technology that inserts a pin into the lumen of the patient’s catheter extension set, sealing and protecting the catheter from contamination before it is disconnected from the disk.

Because of fewer steps, the system is easy to learn, teach, and use, leading to a reduction in mistakes and contamination. No clamps are used, which made the procedure easier for this patient. Furthermore, the system has an organizer: it holds the control dial that guides the patient in a systematic and linear fashion through the treatment steps from drain to close.

Results and discussion
Training went well. The patient could use his left hand to make all connections. Although the organizer permits the task to be performed from either direction, the
patient found it easiest to work right to left and from above the set upward (as opposed to starting below the set). Working from above reduced the chance for contamination. Placing the organizer holder on an intravenous (IV) pole allowed the patient to set the organizer at a level lower than a table, providing greater leverage.

The patient started with an 18-inch extension set that provided sufficient length to work comfortably. The plan was to convert to a 12-inch extension set after the patient became familiar with the procedure; however, the Stay-Safe extension set, with its small cap, was sufficiently light and pliable that no change was required.

The patient made modifications to the original procedure. To facilitate turning the dial, the patient set the disk on the organizer. To break the cone before hanging the solution on the IV pole, the bag was placed on a table. As before, working from above gave the patient more leverage.

The patient learned quickly and felt confident about the treatment.

Conclusions
This experience leads to the conclusion that the Stay-Safe system made it possible for this patient with only one functional arm to independently perform CAPD with confidence.

References

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