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Durability of digital flexible ureteroscopes: How to achieve even more

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Introduction: The digital flexible ureteroscopes (DFU) have proven their superiority in visibility but little data on their durability has been reported. We hereby present our one-year experience with the Olympus URF-V DFU with respect to damages and our strategy in order to minimize user-related damages.

Materials and Methods: Data regarding all procedures that were performed in our department with three new DFU's were collected. After the first five months, we introduced new regulations including general guidelines for safe use and a training scheme for new surgeons. For this study, two study groups were created: Group 1 included all the procedures that were performed in the first five months and Group 2 the procedures thereafter. We analysed the circumstances under which the damages occurred and also retrieved the manufacturer's repair reports.

Results: A total of 141 procedures were performed in 122 patients. Five damages occurred in the first study group and were related to working in maximum deflection. In the second group only three damages occurred. The damages affected the angulation system, the working channel or the body shaft. There was no damage of the imaging system of any ureteroscope. The changes that were made after the first five months of use resulted in significant prolongation of the number of uses before damage for every scope.

Conclusion: The optical system of the new digital ureteroscopes is very durable but the overall longevity depends on the correct handling of their use. By following the proposed user's guidelines for safe use and with monitored training of new users these instruments can have a significantly longer lifespan.

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