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Re: Elkoushy MA: Impact of Radiological Technologists on the Outcome of Shock Wave Lithotripsy (Urology 2011 [Epub ahead of print])

TO THE EDITOR:

This is an important study demonstrating the role of the radiological technologist (RT) on the outcomes of shock wave lithotripsy (SWL).¹ I applaud the authors for adding a new factor—the RT influencing the outcomes of SWL. The role of patient and stone characteristics and lithotripter type, as well as the experience of the operator were the factors affecting the success of the procedure analyzed previously.²⁻⁵ Although the importance of experienced auxiliary staff and technologists is a well-known factor during minimally invasive urologic procedures, the role of RT on outcomes of SWL was not investigated to date.

The experience is a qualitative value that the grading or leveling is sometimes difficult. In their study, the authors used the duration of SWL training for grading the experience in SWL. Although the highest fragmentation and stone-free rates and lowest fluoroscopy time were correlated with the experience of RT over 10 years, the results were not correlated with RTs with experience less than 10 years. The stone-free and fragmentation rates and fluoroscopy time were different for the different RTs with the same years of experience (5 years). Moreover, an experienced RT with an SWL machine cannot present the same success with another SWL machine. Thus, we think this is also another factor affecting the outcome of SWL as well as the experience of RT.

Stone type is another factor affecting the success of the SWL. Although the stone size and location is not statis-

tically different in the study, there are no data about the stone type. A study of patients with similar Hounsfield unit levels, used as a predictor of stone fragility,⁶ should be done to exclude the effect of stone density on the success of SWL.

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Reply

TO THE EDITOR:

We appreciate the positive feedback of the reviewer on the importance of evaluating the impact of radiological technologists (RTs) on outcomes of shock wave lithotripsy (SWL).¹ We agree with the reviewer that some of the limitations of the present study are the lack of data on Hounsfield units, skin-to-stone distance, and stone composition.² In the present study, RTs' experience was presented as a qualitative variable. The number of years of experience has been used previously to compare different levels of RTs' experience. For example, Lee et al evaluated 5 RTs without any prior SWL experience over a 3-year period and showed that overall, stone-free rates significantly improved from 55% to 68% over the 3-year period.³ Therefore, the number of years of experience directly impacted efficacy of SWL regardless of the urologist supervising the procedure. In the present study, a reanalysis of the data showed a moderate negative correlation between the number of years of experience of RTs and fluoroscopy time ($r = -.66$; $P = .16$) (Fig. 1). Thus, increasing the number of years of RTs' experience may correlate with lower fluoroscopy time and thus lower radiation exposure to the patient.