K-Box®

For *faster learning* in *scope manipulation* and *skills improvement*

The **K-box®**, a unique 3D model for ureteroscopy (URS) simulation, is designed to learn the correct movements of URS and making people comfortable to reproduce them in real life.

If lost during the training, the flaps can be opened to see where your devices are localized.

K-Box: A proven solution! [1]

Simulated hands-on-training in ureteroscopy has shown to significantly **improve performance** in the operating theatre. It allows training in a **stress-free environment** away from the operating theatre with supervised repeated practice to a minimum set standard.

Mentors can easily teach trainees on the different flexible ureteroscope movements:

- pronation/supination
- forward/backward movement
- scope deflection
- grasping/releasing of objects/stones

Testing of a new flexible URS training tool: the K-Box [2]

Multicentric evaluation conducted in Tenon Hospital and Southampton NHS Trust has concluded that the model K-Box is efficient as a training tool to initiate students to the flexible URS.

S. Doizi, L. Villa, E. Sener, B. Somani, J. Cloutier, S. Buttice, F. Marson, S. Proietti, O. Traxer.

Objective
Evaluate the efficiency of the *K-Box* training tool and its interest to train students for the flexible URS.

Methods
Two groups of eight randomized urology medical students with no URS experience were invited to perform specific flexible URS exercises.

Group 1 — Eight randomly selected students with no URS experience **allowed** to practice ten specific exercises daily for ten days with the K-Box.

Group 2 — Eight randomly selected students with no URS experience **not allowed** to practice with the K-Box.

Each student was evaluated according to a specific scale by a senior urologist. The time spent for each exercise and for each student was also recorded.

Results
- The students of group 1 obtained statistically better mean scores than the students of group 2 p*< 0.001.

- All the students in group 1 were able to complete all exercises in less than three minutes, compared to only 4/8 students in group 2.

- Regarding the use of the basket, two students from group 1 against 6 in group 2 did not succeed in finalizing the exercise. For the time of the performance of the exercises, the students of group 1 were significantly faster than group 2 for all the exercises p* < 0.001.

Average Scores for each evaluation criteria per group

Manipulation	Trained students (N=8)	Not trained students (N=8)	p*
	Mean score	Mean score	
Environment respect	4.44±0.24	1.87±0.28	
Movement of the hands	4.44±0.24	2.00±0.25	
Scope manipulation	4.55±0.17	1.87±0.21	
Accuracy during the exercise	4.22±0.15	1.87±0.12	<0.001
Knowledge of the intervention	4.66±0.17	1.75±0.15	
Coordination with the assistant	4.44±0.19	1.83±0.21	
Basket manipulation	4.33±0.16	1.62±0.25	

Execution time (secondes)	Trained students (N=8)	Not trained students (N=8)	p*
	Mean score	Mean score	
Exercise 1	76.3±11.6	172.5±6.3	
Exercise 2	69.9±9.9	137.9±9.4	<0.001
Exercise 3	107±22.5	168±17.8	0.02

Conclusion
Student trained with the K-Box showed higher mean score and lower mean time in completing assigned exercises compared to students who did not undergo training sessions with the K-Box.

The K-Box appears to be an effective new tool for training and initiation to flexible URS.

Ostomy Care / Continence Care / Wound & Skin Care / Interventional Urology
1. Villa L, Somani BK, Sener TE, et al. Comprehensive flexible ureteroscopy (FURS) simulator for training in endourology: The K-box model. Cent European J Urol. 2016; 69: 118-120. http://ceju.online/journal/2016/france-4-rue-de-la-chine-md-pierre-and-marie-curie-university-710.php
2. Doizi S. et al. Test d'un nouvel outil d'entraînement à l'urétéroscopie souple : la K-Box®. Progrès en Urologie. 2016; 755.
https://www.sciencedirect.com/science/article/pii/S1166708716302779?via%3Dihub
*Statistics done with the Mann-Whitney test

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