The new grasp-integrated flexible cystoscope (FC) Isiris (Coloplast®) for double J (DJ) removal: evaluation of image quality, flow and flexibility

M. Talso, P. Servan, E. Emiliani, A. Orosa, M. Baghdadi, A. Barreiro, S. Proietti, O. Traxer
Department of urology, Hôpital Tenon, Université Pierre et Marie Curie – Paris VI, Paris, France

INTRODUCTION & OBJECTIVES
- The insertion of a grasper into the working channel of flexible cystoscope drastically affects flow and deflection
- A new digital disposable FC, Isiris (Coloplast®), with an incorporated grasper, has been developed to perform DJ stent removal
- To compare the image quality (IQ), the field of view (FOV), the loss of flow (LOF) and the deflection loss (DL) due to the grasper insertion in different FC

MATERIALS & METHODS
- 5 FC digital (D) and fiber optic (FO)
- QUALITY OF IMAGES
- LOSS OF DEFLECTION
- FIELD OF VIEW
- LOSS OF FLOW
- QUALITY OF VIEW
- 40 VIDEOS IN TOTAL
  - 8 video for each FC to evaluate:
    - Color contrast (Edmund Optics, Barrington, NJ®)
    - Definition (Edmund Optics, Barrington, NJ®)
    - Quality of the image (3 different stones of monohydrate calcium oxalate, dehydrate calcium oxalate and uric acid)
- Images were shown to 30 people For each video a score to 1 to 5 was given (1=very bad, 5=very good)

RESULTS
- QUALITY OF VIEW
  - CYF5 (Olympus®) FO
  - CYF-VH (Olympus®) D
  - Isiris (Coloplast®) D
  - 11272C1 (Storz®) FO
  - CST5000 EndoSheath (Vision Science®) D
  - 40 VIDEOS IN TOTAL
- LOSS OF FLOW and DEFLECTION with the grasper in
  - Instruments tip deflection was measured using a protractor with and without the grasper inside the working channel.
- Field Of View at 3 cm of distance

CONCLUSIONS
- In terms of VISION and WATER FLOW the new disposable FC Isiris is comparable to the other digital FC on the market. Field of view is narrower, but there is not indication for diagnostic use.
- The results displayed a valid alternative to standard procedures for DJ removal.
- More studies in vivo are needed to evaluate the patient tolerance and cost effectiveness of the new disposable.

The average upward and downward deflection loss was 62.5° and 24.25° respectively
*The negative value explains a better flow when the grasper is outside compared to the grasper inside the device. The grasper inside is more obstructive.