Modular Training and Assessment Tools for Ventral Onlay and Multistage Urethroplasty techniques

Sara Jasionowska 1, Majed Shabbir 1,2, Oliver Brunckhorst 1, Muhammad Shamim Khan 1,2, Hussain Manzoor 3, Prokar Dasgupta 1,2, Paul Anderson 4, Guido Barbagli 5, Kamran Ahmed 1,6

1 MRC Centre for Transplantation, King’s College London, London, United Kingdom; 2 Department of Urology, Guy’s and St. Thomas’ NHS Foundation Trust, London, UK; 3 Sindh Institute of Urology and Transplantation, Civil Hospital, Karachi, Pakistan; 4 Department of Urology, The Dudley Group NHS Foundation Trust, Dudley, UK; 5 Centro Chirurgico Toscano - Center for Reconstructive Urethral Surgery - Arezzo, Italy; 6 Department of Urology, Guy’s and St. Thomas’ NHS Foundation Trust, London, UK
Aim, Results, Conclusions

• **Aim:** to develop and content validate the *Modular Training and Assessment Tools for Ventral Onlay and Multistage Urethroplasty techniques*

• **Results:** The HFMEA process resulted in internationally validated modular tools for Ventral Onlay BMH and Multistage Urethroplasty procedures. Failure Mode and Effects with a Hazard scores ≥4 and Single-Point Weaknesses were included to implement actions and outcome measures.

• Modular Training Tool for the *Multistage approach* contained 8 phases, 15 processes and 25 sub-processes. The tool for the *Ventral Onlay approach* consisted of 5 phases, 10 processes and 23 sub-processes.

• **Conclusions:** The urethroplasty modular training tools offer a comprehensive validated training aid developed via a detailed HFMEA protocol. This may be utilised in practice to standardise the training and assessment of urology trainees.
Methodology

• This observational, prospective and multi-centre study was performed over an 11-month period. Procedures of interest were observed for 11 hours in two UK tertiary centres.

• The HFMEA was used to identify and evaluate hazardous steps of the procedures to develop urethroplasty modular training tools. The Hazard Score for each failure mode was calculated by multiplication of the Severity and Probability scores. The cut-off for inclusion in the modular tools was 4.

• Content validation was performed by 4 expert surgeons and multidisciplinary teams from tertiary centres.