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First urology simulation boot camp in the United Kingdom☆,☆☆

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Abstract

Objective: Simulation is now firmly established in modern surgical training and is applicable not only to acquiring surgical skills but also to non-surgical skills and professionalism. A 5-day intensive Urology Simulation Boot Camp was run to teach emergency procedural skills, clinical reasoning, and communication skills using clinical scenario simulations, endoscopic and laparoscopic trainers. This paper reports the educational value of this first urology boot camp.

Subjects and methods: Sixteen urology UK trainees completed pre-course questionnaires on their operative experience and confidence level in common urological procedures. The course included seven modules covering basic scrotal procedures, laparoscopic skills, ureteroscopy, transurethral resection of the

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prostate and bladder tumour, green light laser prostatectomy, familiarisation with common endoscopic equipment, bladder washout to remove clots, bladder botox injection, setting up urodynamics. Emergency urological conditions were managed using scenarios on SimMan®. The main focus of the course was hands-on training using animal models, bench-top models and virtual reality simulators. Post-course assessment and feedback on the course structure and utility of knowledge gained together with a global outcome score was collected.

Results: Overall all the sections of feedback received score of over 4.5/5, with the hands-on training on simulators getting the best score 4.8/5. When trainees were asked "The training has equipped me with enhanced knowledge, understanding and skills," the average score was 4.9/5.0. The vast majority of participants felt they would recommend the boot camp to future junior trainees.

Conclusion: This first UK Urology Simulation Boot Camp has demonstrated feasibility and effectiveness in enhancing trainee's experience. Given these positive feedbacks there is a good reason to expect that future courses will improve the overall skills of a new urology trainee.

Introduction

"*There is no excuse today for the surgeon to learn on the patient*" [1]

Changes in health care within the National Health System have had a profound impact on the number of hands-on surgical training opportunities that are available to urology trainees. The changeover from core surgical trainee (CT) to first-year (ST3) urological specialty trainee can be a stressful time as they develop anxieties related to their clinical skills, accountabilities and expectations [2]. Trainees join the program with varying levels of knowledge and ability of procedural skills and simulation based learning is one means to assess and improve proficiency. Various higher specialty training programmes provide their newly appointed trainees with an acclimatization period to help prepare for their new environment and training. The learning content and length of these training sessions differ commonly. There is little accord on what the perfect early on educational modules ("bridging the gap") ought to incorporate. In a study, authors introduced a 9-week simulation-based course for surgical interns and trainees demonstrated a statistically significant correlation between cognitive and procedural skills assessments with subjective and objective clinical performance evaluations over the 4 years [3]. A 10-day structured program with didactic lectures, online modules, simulation, and mock clinical scenarios for the first-year Obstetrics and Gynecology residents showed improvement in confidence level (cognitive skills (2.9 vs 3.9, $P < 0.05$) and technical skills (3.9 vs. 4.6, $P < 0.05$)) [4]. Orientation is the planned introduction of new junior doctor to their jobs, required skills, and work ethics. It is an important task to minimise their anxiety and facilitate them to become a competent member of a team. Interestingly, there is little in the urology literature examining the impact or most appropriate structure of these programs.

Given that an ever-expanding complement of new surgical technologies increases the number of skills trainees are expected to acquire during training years, the interface between core surgical training and urology specialty training provides an opportunity for early skill development with the goal of achieving the proficiency levels necessary to optimise patient care, operative experience, and skill refinement. Additional educational provision has traditionally been by the way of short courses and there is a wide selection to choose from.

In UK, once a student graduates from medical school a further 2-year period of foundation training is done to acquire the general competencies to work as a junior hospital doctor. This will involve working on wards with nurses and allied health professionals and delivering day to day medical care to in and out patients. Having completed the required foundation in the practice of hospital medicine, the next stage involves 2 years of core training either in surgery or medicine. Core surgical training lasts two years and provides training in a hospital in a range of surgical specialties and trainees are expected to take the examination to achieve membership of the Royal College of Surgeons (MRCS) or equivalent. For surgical specialty training, core trainees are invited to apply for the specialty training post through a national selection process. If successful, trainee is allocated a national training programme number and joins a regional "rotation" as a Specialty Trainee (ST3—designating the fact that is the third year of a seven-year formative training programme and finish as ST7, STs are often called registrars [resident]).

We have created a curriculum for a "boot camp" to develop urological skills proficiency among core surgical trainees entering the UK urology training scheme. This curriculum emphasises attaining proficiency on basic endoscopic urological procedures, common urological emergency surgical procedures and non-technical skills.

What is a boot camp? In the context of medical education—"A boot camp is a focused course designed to enhance learning, orientation, and preparation for learners entering a new clinical role. This is achieved through the use of multiple educational methods with a focus on deliberate practice with formative feedback" [5].

Subjects and methods

We started with a general needs assessment using a questionnaire to a small group of newly appointed ST3 urology residents. The sur-