

# Urologic daycase surgery: A five year experience

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## Abstract

**Background:** Expectedly, daycase surgery (DCS) is today witnessing a boom in developing countries as a reasonable option in the face of global economic recession, although with limited scope.

**Aim:** The aim of this study was to describe the urologic day surgery experience at the Lagos State University Teaching Hospital, Ikeja.

**Materials and Methods:** All day-case urologic surgeries done between January 2006 and December 2010 were retrospectively studied. Data obtained were patients' personal details, diagnoses, procedures performed, mode of anesthesia, and surgical complications as well as admission rate.

**Results:** A total of 1070 operations were performed. The patients were aged 7 days to 92 years. Local anesthesia was employed in 42.2% while general anesthesia was used in 1.7% of patients, mostly pediatric cases. Caudal block anesthesia (55.8%) was administered for transrectal prostate biopsy and urethrocystoscopic procedures. The diagnostic and therapeutic urologic procedures in adults were mainly prostate biopsy ( $n = 344$ , 32.1%), urethrocystoscopy ( $n = 218$ , 20.4%), varicocelectomy ( $n = 143$ , 13.4%), and orchidectomy ( $n = 93$ , 8.7%). Mohan's valvotomy was the most common pediatric operation ( $n = 19$ , 1.8%). Postoperative morbidities that warranted hospital admission were observed in 17 (1.6%) cases.

**Conclusion:** Urologic day surgery is feasible with minimal morbidities. The provisions of a dedicated day-case unit or a mobile DCS service may further improve on the volume of cases that can be operated on a day-case basis and has the potential of further reducing the waiting time for surgery.

**Key words:** Daycase, surgery, urology

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## Introduction

James Nicoll first documented in Glasgow "operations performed in a planned non-residential basis"<sup>[1]</sup> at the Royal Hospital for Sick Children between 1900 and 1908. With dwindling national health budget and its consequences: inadequate in-patient facilities, few surgical, and anesthetic staff as well as long elective operation waiting lists, the practice of DCS therefore serves as reasonable option.

The improvement in anesthetic techniques and perioperative pain management, emergence of minimally invasive surgeries, and changing attitudes of recovery after surgery have all promoted the boom of day-case surgery worldwide. Thus, its numerous benefits, such as cost reduction, minimal

effect on physical activities, prevention of nosocomial infection, and reduction of patient's waiting list, have become more apparent.

The increasing acceptability in both developed and developing world has led to its utilization by virtually all surgical specialties and more urologic patients are treated by DCS.<sup>[2-4]</sup> Yet the current international target of 75% of all elective cases is still far from being met.

Since there is paucity of work on the subject in this environment, this study aims at contributing to the body

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of experiences by documenting the benefits of urologic day procedures performed in our teaching hospital.

## Materials and Methods

A 5-year review of all day-case urologic surgeries from January 2006 to December 2010 at our institution was carried out. The required information was obtained from the theater register and the case notes. Data obtained were patients' personal details, diagnoses, procedures performed, modes of anesthesia, and the surgical complications. The day-case suite is attached to the main theater where major elective procedures are carried out concurrently. Postoperatively, the patients are observed for about 15-30 minutes in a dedicated recovery room from where they are discharged home. The patients who needed hospital admission were also noted. The data were subsequently analyzed using Statistical Package for Social Science (SPSS) 16.0 for Windows.

## Results

A total of 1070 day-case urologic operations were performed during the 5-year study period. The patients were aged 7 days to 92 years with a mean age of 50.4 years. While 996 (93.1%) were males, 74 (6.9%) were females (male :female = 13:1). Majority, 1022 (95.5%), of the patients were adult while the pediatric cases accounted for 48 (4.5%).

Local anesthesia in the forms of local infiltration was used in 452 (42.2%) while general anesthesia was used for 18 (1.7%) patients. Caudal block anesthesia in 597 (55.8%) patients was the most common form of anesthesia administered, mainly for the transrectal prostate biopsy and urethrocystoscopic procedures. Three babies (0.3%) had circumcision without anesthesia.

The procedures carried out are summarized in Table 1. There were transrectal prostate biopsies in 344 patients (32.1%), urethrocystoscopies 218 (20.4%), varicocelectomies 143 (13.4%), orchidectomies 93 (8.7%), and hydrocelectomies

49 (4.6%). Forty-eight (4.5%), 21 (2%), 26 (2.4%), and 24 (2.2%) patients had orchidopexies, urethral dilatations, testicular biopsies, and endoscopic urethral realignment, respectively. Other procedures included 14 (1.3%) circumcisions, 34 (3.2%) suprapubic cystostomies, 15 (0.5%) secondary wound closures, 19 (1.8%) Mohan's valvotomies, 5 (0.5%) direct vision internal urethrostomies, 4 (0.4%) glanulocavernous shunts, 3 (0.3%) vesicolithotomies, 13 (1.2%) excision biopsies, and 1 (0.1%) percutaneous nephrostomy.

Postoperative morbidities that warranted hospital admission were observed in 17 (1.6%) patients. One patient had bladder perforation from the tip a urethral sound following urethral dilatation and was repaired by open surgery. Eleven patients had hemorrhage following transrectal prostate biopsy (7 patients), urethral dilatation (1 patient), and internal urethrostomy (3 patients). Two cases of postoperative pyrexia from sepsis after prostate biopsy also represented 3 days postoperation and were managed on admission. No mortality was recorded among the patients studied.

## Discussion

Currently in Nigeria, several centers provide day-case surgery in various surgical specialties with encouraging results.<sup>[4-8]</sup> The urologic unit of this institution has a well-organized dedicated theater session.

Day-case urologic operations accounted for 61.6% of a total 1738 elective urologic surgeries done within the study periods, spreading over a wide range of diagnostic as well as therapeutic procedures. This value exceeds the target projected by Royal College of Surgeons of England in 1985<sup>[9]</sup> but lower than the recent upward review of 75% of elective cases.<sup>[10]</sup> To surpass this current international target, or at best equal it, more dedicated day-case theater sessions would be desirable. Key to successful day-case surgery is the use of adequate and appropriate anesthesia. Local anesthetic agent (1% lignocaine injection) is preferred practically in all cases for day procedures in adults. This is due to its relative safety and minimal postoperative problems like nausea, vomiting, and headache, thereby facilitating faster discharge from hospital.<sup>[8,11]</sup> In addition, the patients are offered intravenous tramadol and paracetamol for preemptive analgesia. In the study, 98% of patients had their procedures done under either local anesthesia infiltration (42.2%) or caudal block anesthesia (55.8%) using 1% lignocaine. This favorably compares with 67.2% and 74.3% published elsewhere.<sup>[12]</sup> Caudal block is the anesthesia of choice for transrectal prostate biopsies and urethrocystoscopic procedures. The method gives satisfactory anesthesia in most cases. In particular, the

**Table 1: Frequency of day-case urologic procedures**

Types of procedures	N	(%)
Prostate biopsy	344	(32.1)
Urethrocystoscopic procedures	247	(23.1)
Varicocelectomy	143	(13.4)
Scrotal surgeries	217	(20.3)
Circumcision	14	(1.3)
Mohan's valvotomy	19	(1.8)
Vesicolithotomy	3	(0.3)
Urethral dilatation	21	(2.0)
Suprapubic cystostomy	34	(3.2)
Glanulocavernous shunt	4	(0.4)
Others	24	(2.2)
Total	1070	(100)

transrectal prostate biopsy is easy and pleasurable to carry out due to relaxation of the anal sphincter.<sup>[13]</sup> The occasional attendant paraparesis usually resolves within 30 minutes and before the patient is discharged home. Inhalational anesthetics were administered mainly to children who had circumcision or Mohan's valvotomy. This accounted for 1.7% of the cases. However, three (0.3%) male neonates aged 5-7 days were circumcized without anesthesia.

A wide range of urologic day procedures ranging from endoscopic to open surgeries were performed. While 562 (52.5%) were diagnostic, 508 (47.5%) were therapeutic. The patients were carefully selected following appropriate guidelines.<sup>[9]</sup> As prostate biopsy, urethrocystoscopy and varicocelectomy are the leading surgeries in adults, Mohan's valvotomy was the most common procedure in children. This differs from the finding of Takure *et al.* who reported circumcision as the main procedure in pediatric male patients

### Conclusion

This study corroborates the body of evidence that urologic day surgery is feasible and effective in this setting. It would significantly help to reduce waiting time for surgery and pressure on hospital beds. However, there is a need for more dedicated day-case units to further reduce the waiting list. Moreover, continuous surgical education and researches to expand the scope of procedures currently performed would be desirable.

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