

# Interest and experience in laparoscopy among Ghanaian surgeons

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## Introduction

Laparoscopic techniques for performing surgery have been utilized for over 30 years now, however implementation of these techniques in the developing world has been delayed compared to the Western world for a variety of reasons. In Ghana, the first laparoscopic surgeries were being performed in just the last few years and include laparoscopic cholecystectomies, ventral hernias, and diagnostic laparoscopies. One of the reasons the use of laparoscopy has been adopted relatively slowly is the lack of training opportunities. At the 2013 annual medical education conference of the Ghana College of Physicians and Surgeons, a laparoscopic workshop was held by U.S. physicians from International Healthcare Volunteers. We administered surveys during the course as an initial assessment of the participants' experience and interest in laparoscopy and barriers to implementing laparoscopy in their practice.

## Methods

The laparoscopic skills workshop titled "Fundamentals of Minimally Invasive Gynecologic Surgery: Hands on Basic and Advanced Laparoscopic Techniques," was administered over three days from September 16 - 18th, 2013 at the Annual Meeting of the Ghanaian College of Physicians and Surgeons in Kumasi, Ghana. Each of the three workshops was one hour in length except for the last day's session which lasted three hours. The workshop comprised both didactic and practical components and used a laparoscopic skills trainer set donated by Ethicon.

Activities included:

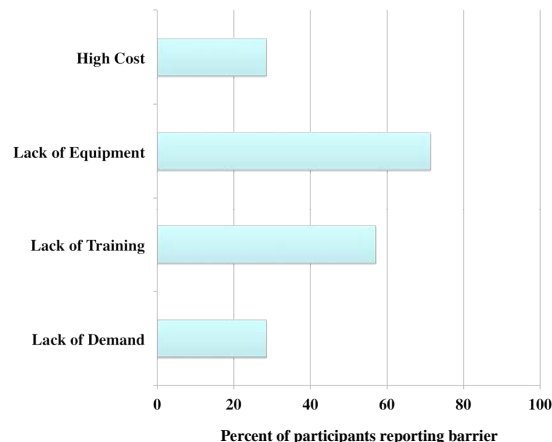
- peg board placement of triangular bands
- stretching a rubber band over two spikes of unequal length
- cutting a circle on a piece of gauze
- suturing a slit in penrose drain
- use of one-handed and two-handed transfer drills, and
- camera movement drills.

16 physicians and residents participated in the course including general surgeons, gynecologists, and family medicine doctors.

A 5-question optionally anonymous survey was administered during the course in order to assess participants' experience and interest in laparoscopy and to understand barriers to implementation of laparoscopy at their institutions.

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**Figure 1. Barriers to implementing laparoscopy in Ghana according to participants in a laparoscopic skills training course**



## Results

7/16 (43%) of participants completed our survey. Among respondents, 5 were surgeons in the field of obstetrics and gynecology, 1 was a general surgeon and 1 was a general practitioner (GP) who responded. Everyone was from the nearby Komfo Anokye Teaching Hospital except for the GP, who was from Tema, Ghana, and most were either still in residency or in practice for 5 years or less.

Experience was limited among respondents: 71% reported some kind of exposure to laparoscopy which included both simulation and observation, but only the general surgeon reported utilizing minimally invasive techniques in his practice, and again, this was limited to cholecystectomies and ventral hernia repairs.

All respondents planned to use laparoscopy in the future. However, they reported a number of barriers (Figure 1), including a lack of training opportunities, a lack of equipment, high cost and a lack of affordability of the part of the patients, and lastly, a lack of demand "because of ignorance." This last point was corroborated by another participant who stated that laparoscopy "is not popular [or] common."

When asked for feedback on the course, survey respondents asked that it be done more frequently and also requested equipment for practice.

## Discussion

This was the first survey to assess interest and experience in laparoscopy among Ghanaian surgeons. While the survey response rate of 43% was poor, it did provide some initial insight into how laparoscopy might be successfully introduced in Ghana.

Clearly, there is a need for training opportunities in laparoscopy, especially for the younger generation of physicians who demonstrate significant motivation to acquire these skills and implement them in their own practice. While most reported some exposure to laparoscopy, it was usually limited, which in some ways could actually make the standardization and delivery of training courses much simpler as the participants would more or less be at the same level of knowledge and skill.

Several barriers identified by the participants are expected in a limited resource setting, including the high cost and lack of equipment. Unlike in the United States, where the higher cost of laparoscopy can be offset by a reduced length of stay in the hospital, the cost per day for a hospital stay is much less in Ghana and therefore may not provide a more economical option. Still, the advantages of laparoscopy in terms of faster recovery, reduced postoperative pain, and earlier return of bowel function would certainly benefit the patients in Ghana who may not have access to narcotic pain medications or need to return to work sooner.

Lack of training was another commonly cited barrier by respondents, who asked that similar courses be offered more frequently. In order to make a sustainable change in technique, expertise among the country's surgeons would first need to be developed so that they may educate and train their peers and juniors.

Interestingly, because laparoscopy is not yet established in the country, there is less of a demand, and perhaps even a lack of trust, in laparoscopic techniques on the part of patients as mentioned by one of the participants. Hopefully, as it becomes more widespread and adopted at various institutions, a greater acceptance of laparoscopy where appropriate will evolve. The general surgeon who reported actually performing such surgeries himself for the past 5 years is evidence that these techniques can be successfully executed in the country and that the hospital, healthcare staff, and patients are receptive to its implementation.

## Conclusions

Physicians and surgeons in Ghana are eager and motivated to learn and adopt laparoscopic techniques in their surgical practices, however in order to do so, several barriers to implementation will first need to be addressed, including increasing the number of training opportunities.