# ROUTINE LAPAROSCOPIC SURGERY: WHY NOT?

**Ray-Offor E, Okoro PE, Fiebai PO.**
*Departments of Surgery and Obstetrics/ Gynaecology,*
*University of Port-Harcourt Teaching Hospital Alakahia, Rivers State, Nigeria.*

**Correspondence:** Dr. Ray-Offor Emeka
*Department of Surgery, University of Port-Harcourt Teaching Hospital, Alakahia, Rivers State, Nigeria*
*Email: erayoffor@yahoo.com.*

## ABSTRACT
Background: *There has been a paradigm shift in the past three decades from open to minimal access surgery. This comprises diagnostic and therapeutic techniques by less intrusive methods with similar and often better outcome. The skill of a surgeon or gynaecologist is not complete without a good knowledge of laparoscopy.*
**Aims:** *To study the knowledge, attitude and practice of laparoscopy among surgeons and gynaecologists.*
**Materials and Method:** *A cross-sectional cohort study was conducted in the Surgery and Obstetrics &Gynaecology departments of our institution. A pretested questionnaire was randomly administered to a total of 75surgeons, gynaecologists and their trainees. Socio-demographic characteristics, knowledge, attitude and practice of laparoscopy were assessed. Analysis of the result was by simple percentages.*
**Results:** *Majority of respondents had not participated in a laparoscopic procedure 39(56.5%) nor refer patients for laparoscopy 52(75.4%).Knowledge was inadequate as 34(49.3%) could not accurately define laparoscopy and 15(21.8%) did not know the abdomen as the body part involved in laparoscopy. The drawbacks to routine laparoscopy were considered surmountableby 61 (88.4%) respondents.*
**Conclusion**: *In our environment, there is the need for further training of specialists and their trainees to harness the benefits of laparoscopy. The dearth of support staff, and equipment challenges are surmountable challenges to routine laparoscopy.*

**Keywords:** *Laparoscopy, Knowledge, Attitude, Practice.*

---

## INTRODUCTION
A fascinating aspect of modern-day surgery is minimal access surgery .Philip Bozzini is widely believed to have invented the first endoscope named 'Lichtleiter'(light conductor) in 1804.[1] A century went by with mostly diagnostic application of endoscopes in cystoscopy, proctoscopy, laryngoscopy and esophagogastroscopy. Endoscopy through the anterior abdominal wall was first performed by German surgeon George Kelling (1901).This procedure was later coined laparoscopy by Hans Jacobeus (1910).[2] Therapeutic application of laparoscopy in general surgery was heralded in laparoscopic appendicectomy by a Gynaecologist Kurt Semm (1982) however, the flagship of the practice has been laparoscopic cholecystectomy first performed by Eric Muhe (1985)[3,4]It is effective, safe and currently widely accepted by patients in developed countries but initial resistance to the practice of laparoscopy among surgeons and gynaecologists was strong because it forced them to surrender two vital sensory tools-touch and direct visualization, for the victory of a revolutionized practice of surgery.

Laparoscopy offers a minimally invasive option of treatment with decreased stress response, blood loss, post-operative pain, post-operative adhesion, shorter hospital stay and an earlier return to work.[5, 6]Improved cosmesis is a major reason for its wide acceptance among patients. It also presents an effective teaching aid with the magnified video-monitor image in open surgery of deep pelvic structure aiding dissection and reconstruction.[7] Despite these, longer operating time(in some cases), the learning curve, challenges of pneumoperitoneum and expensive may influence its availability.

In our centre, a regional tertiary health facility, a few diagnostic and therapeutic laparoscopic procedures

have been performed however a desirable routine practice of laparoscopy is not yet the case thus the need for this study.

## AIMS

This study aims to evaluate the knowledge, attitude and practice of laparoscopy among surgeons, gynaecologists and trainees in our institution.

## METHOD

A cross-sectional cohort study was conducted in Surgery and Gynaecology departments of University of Port-Harcourt Teaching Hospital in September 2011. A pretested questionnaire was randomly administered to surgeons, gynaecologists and their trainees. The questionnaire was designed to elicit socio-demographic characteristics including age, sex, marital status, cadre and area of specialization. Knowledge was evaluated by closed question on the site of the body involved in laparoscopy with open questions on the definition of laparoscopy, surgeries preferably done by laparoscopic method, benefits of laparoscopy over open method. A definition of laparoscopy was adjudged correct if it comprised at least 3 of 4 essential components (a) minimally invasive (b) involving abdomen/peritoneal cavity(c) the use of telescope (d) for visualization ± therapeutic procedure. The practice of laparoscopic surgeries was assessed in the questionnaire by referral of patients for laparoscopic procedures, previous involvement in laparoscopic surgery as the operating surgeon, assistant surgeon,and observeror never participated. Lastly drawbacks to routine laparoscopy and attitude towards these drawbacks were sought. Data were collated and analysed by simple percentages.

## RESULTS:

A total of 75 participants in attendance at separate clinical meeting of the two departments were administered with the questionnaire, but 6 were excluded due to non- response or non- completion of the questionnaire. Of the 69 respondents included in this analysis, the findings are shown in Tables I-V and Figures I–II

Our study showed that most of the respondents in the age group -31-35yr followed by >40yrs [20(29%)]. The male to female ratio was 8:1. More than half of respondents were married 41(59.4%).The junior trainee surgeons (Registrars) had 34(49.3%) respondents evenly distributed between the two departments. A total of 13(18.8%) senior trainee surgeons (Senior Registrars): 3 were trainee gynaecologists and 10 trainee surgeons-Table I. The Consultants were 22(31.9%): 15 Surgeons and 7 Gynaecologists.

Knowledge of abdomen being the site of operation in laparoscopy was inadequate as more than one-fifth of respondents could not identify the abdomen as the body part involved in laparoscopy-Table II.The accurate definition of the term laparoscopy as a minimal invasive procedure in the abdomen with the aid of an endoscope for diagnostic and therapeutic purpose was given by 28(40.6%) with more than half 35(50.7%) adjudged incorrect according to the study criteria.It was observed that Consultant Gynaecologists had more knowledge of laparoscopy with the highest correct response to the questionof area of body part involved(85%) and correct definition of the term laparoscopy(71.4%). In comparison Consultant Surgeons had the least correct response of 60% and 28.6% respectively to the questions on knowledge.Amongst the several benefits of laparoscopic surgery over the open method enumerated, the three most frequent responses were quicker recovery 48(69.6%), minimally invasive 28 (40.6%) and improved cosmesis 28(40.6%) Table III.

The major drawbacks to the practice of laparoscopy from the view of respondents were non-availability of complete equipment, scarcity of trained personnel and technical support-Figure1. All the drawbacks were considered surmountable by a significant majority 61 (88.4%) -Table IV, though more than half of respondents 39(56.5%) had never been practically involved in a laparoscopic surgery as an observer, performing or assistant surgeon (Table V). Referral for laparoscopy was scarcely practiced as shown by 52(75.4%) of respondents never referring patients for laparoscopy (Figure II).

## DISCUSSION

The practice of surgery has undergone remarkable revolutions over the years as modern day surgery can now be performed through miniature incisions with the incorporation of video technology.The age spread in this study has none below 25yrs which is suggestive of the long duration of surgical training.Traditionally, long arduous years of medical training in a structured program are needed for the acquisition of basic surgical skills. A modern training program is designed to produce competent professionals in safe, academic and efficient environment.[8] It is significance that the highest age group (31-35yr) is a population very adaptable to the

challenges of learning new skills.

A list of endoscopic surgeries include: thoracoscopy, laparoscopy, endoluminal, perivisceral, intraarticular joints, thus the list of body parts in the questionnaire-thorax, abdomen, limbs/joints, all of the above. The abdomen, the correct answer in the questionnaire, is a common field of operation to the Gynaecologist, Urologist, Vascular, Orthopaedic (spine) and General Surgeons. These specialties are all represented in the study population. A quarter of this population by incomplete or non-response suggest a lack of comprehensive surgical training.

A few centres in Nigeria currently are capable of carrying out laparoscopic surgeries however none has an organized training program for a competency framework design. Good laparoscopy skills curriculum training comprises goal oriented training with sensitive and variable performance tests [10]This training model is different from the traditional mentoring for open surgery. Ideally, a trainee's competence is thoroughly evaluated before independent laparoscopic surgery with the use of virtual reality simulator, porcine in vivo or ex vivo set ups and trainer boxes. These play vital roles in overcoming the crux of the learning curve. Simultaneous training of open and endoscopic surgery has been observed to produce a synergistic effect in the education of surgical residents as fine anatomy is learned through the magnified image on the monitor.[11]Our study suggests the need to emphasize laparoscopy in the post-graduate training curriculum of surgeons and gynaecologists. There is the need for local/regional training workshops and overseas courses to update the knowledge of doctors and their support staff.

As shown by our study non-acquisition of all relevant equipment, lack of trained surgical and support staffs are the major factors stalling the growth of this budding practice. Laparoscopy equipment comprises standard trolley equipment, optical and specially designed hand instruments. The maintenance and replacement of these when faulty attract significant cost and specialized knowledge. A dedicated theatre suite is recommended as this has been shown to reduce the operating time significantly.[9] Therefore hospital budget and corporate sponsorship should reflect a deliberate plan of action to offer this contemporary surgical practice which will stem the significant funds lost to medical tourism and erosion of confidence in local standard of care.

## CONCLUSION

There is the need for specialists and their trainees to undergo further training in laparoscopy to harness the desirable benefits. The acquisition of all relevant equipment and training of relevant staff in an enabling environment are key to the routine practice of laparoscopy.

*Demographics of study population (Table 1)*

| | Frequency | Percentage (%) |
|---|---|---|
| Age group (yrs) | | |
| ≤ 25 | Nil | 0 |
| 26-30 | 5 | 7.3 |
| 31-35 | 25 | 36.2 |
| 36-40 | 17 | 24.6 |
| >40 | 20 | 29.0 |
| Not stated | 2 | 2.9 |
| Total | 69 | 100 |
| Sex | | |
| Male | 61 | 88.4 |
| Female | 8 | 11.6 |
| Total | 69 | 100 |
| Marital Status | | |
| Single | 15 | 21.8 |
| Married | 41 | 59.4 |
| Not stated | 13 | 18.8 |
| Total | 69 | 100 |
| Cadre | O&G | Surgery |
| Registrar | 17 | 18 |
| Senior Registrar | 3 | 10 |
| Consultant | 7 | 14 |

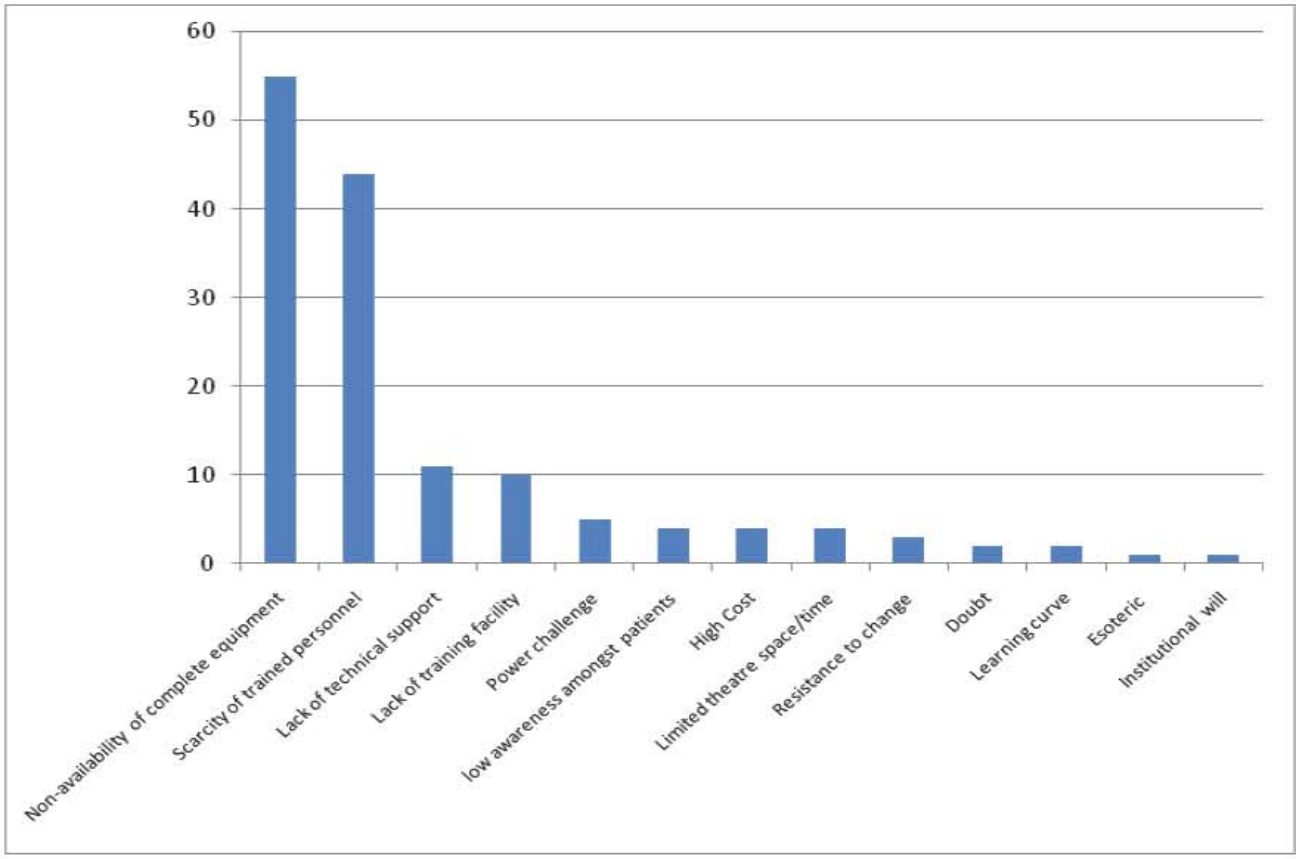
*Knowledge of laparoscopy (Table II)*

| Area of body involved? | Surgery Trainees (%) Consultants(%) | | Gynaecology Trainees(%) Consultants(%) | | Total Frequency |
|---|---|---|---|---|---|
| Abdomen | 20(74.0) | 9(60.0) | 14(70.0) | 6(85.7) | 52(75.4) |
| Joints | - | 1(13.3) | - | - | 1 (1.5) |
| Thorax | - | - | - | - | - |
| Limbs | - | - | - | - | - |
| All body parts | 4 (14.8) | 2(13.3) | - | - | 5(7.2) |
| None of body parts listed | 1 (3.8) | - | - | - | 1(1.5) |
| No response | 2 (7.4) | 1(13.3) | 6 (30.0) | 1 (14.3) | 10(14.4) |
| Total | 27(100) | 14(100) | 20(100) | 7(100) | 69(100) |
| **Ability to define the term laparoscopy** | **Surgery Trainees(%) Consultants(%)** | | **Gynaecology Trainees(%) Consultants(%)** | | **Total frequency** |
| Correct | 10(35.7) | 4(28.6) | 9(45.0) | 5(71.4) | 28(40.6) |
| Wrong | 16(57.2) | 7(50.0) | 10(50.0) | 2(28.6) | 35(50.7) |
| No response | 2(7.1) | 3(21.4) | 1(5.0) | (θ) | 6(8.7) |
| Total | 28(100) | 14(100) | 20(100) | 7(100) | 69(100) |

*Knowledge of benefits of laparoscopy over open surgery (Table III)*

| Benefits | Frequency | Percentage (%) |
|---|---|---|
| Quicker recovery | 48 | 69.6 |
| Minimally invasive | 28 | 40.6 |
| Improved cosmesis | 28 | 40.6 |
| Less post-operative pain | 14 | 20.3 |
| Less blood loss | 14 | 20.3 |
| Decreased stress response | 12 | 17.4 |
| Less wound complications | 12 | 17.4 |
| Low hospital cost | 7 | 10.1 |
| Reduced adhesions | 6 | 8.7 |
| Day case surgery | 1 | 1.4 |
| Better visualization | 1 | 1.4 |
| Precision | 1 | 1.4 |

*Figure I: Drawbacks to practice of laparoscopy in our institution*



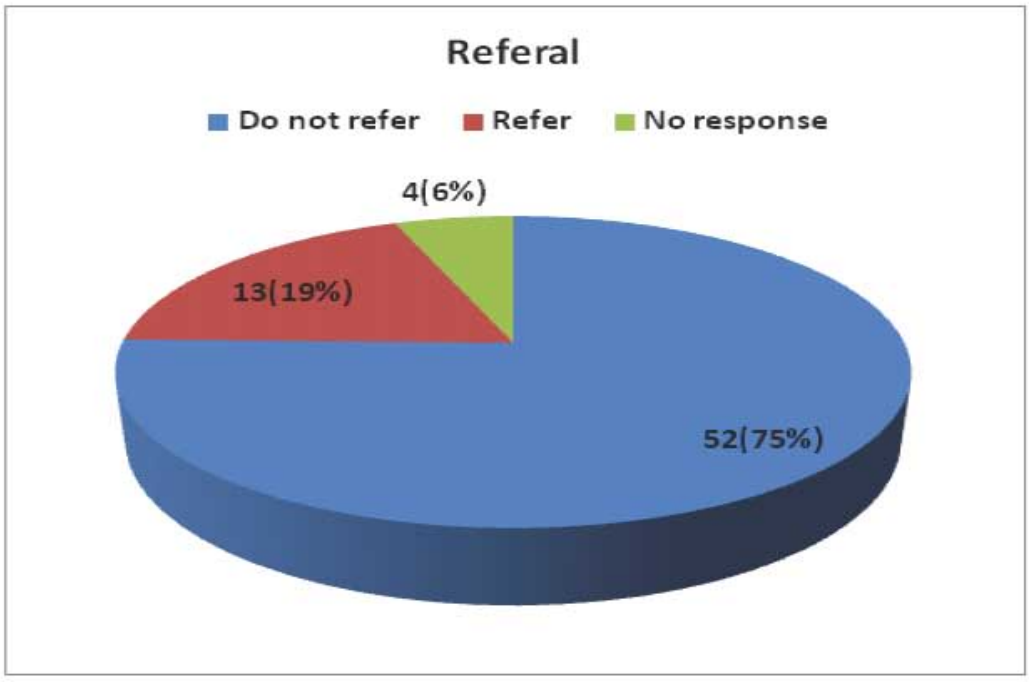
*Drawbacks to practice of laparoscopy- TableIV*

| Are drawbacks surmountable? | Frequency | Percentage |
|---|---|---|
| Yes | 61 | 88.4 |
| No | 2 | 2.9 |
| Not stated | 6 | 8.7 |
| Total | 69 | 100 |

*Practice (Table V)*

| Level of participation | Frequency | Percentage |
|---|---|---|
| Not participated | 39 | 56.5 |
| Observer | 19 | 27.5 |
| Assistant Surgeon | 8 | 11.6 |
| Surgeon | 2 | 2.9 |
| No response | 1 | 1.5 |
| Total | 69 | 100 |

*Figure ii*



## REFERENCES


1. Nezhat F. Triumphs and controversies in laparoscopy: the past, present and the future. JSLS 2003;7:1-5
2. Litsky GS, Paolucci V. Origin of Laparoscopy: coincidence or surgical interdisciplinary thought. World J Surg.1999;22:899-902
3. Litsky GS. Endoscopic surgery: the history, the pioneers. World J Surg.1999; 23:745-753
4. Kaiser AM, Corman MI. History of laparoscopy. Surg Oncol Clin N. Amer 2001; 10:483-492
5. Sauerland S, Lefering R, Holthausen U, Neugebauer EAM. Laparoscopic vs. conventional appendectomy - a meta-analysis of randomised controlled trials. Cochrane library 2006,Issue 1
6. Nguyen NT, Goldman C, Rosenquist CJ, Arango A, Coles CJ, Lee SJ, Wolfe BM. Laparoscopic versus open gastric bypass: a randomized study of outcomes, quality of life and costs. Ann Surg2001; 234:279–291
7. Izes JK, Libertino JA,Roth RA.The laparoscope as a teaching aid in open pelvic surgery.Urology1995;46:713-714
8. Rantcharov T,Reznick RR. Training tomorrow's surgeons:what are we looking for and how can we achieve it?ANZ J Surg 2009;79:104-107
9. KenyonTAG, Urbach DR, Speer JB, Waterman-Hukari B, Foraker G, Hansen PD, Swanström LL. Dedicated minimally invasive surgery suites increase operating room efficiency.SurgEndosc2001;DOI:10.1007/s00 46400800
10. Stefanidis D, Heniford TB.The formula for a successful laparoscopic skills curriculum. Arch Surg 2009;144:77-82
11. Kano N, Takeshi A, KusanagiH, Watarai Y, Mike M, Yamada S et al. Current surgical training in open and laparoscopic surgery. SurgEndosc 2010;24:2927-2929