

**COMPARATIVE STUDY BETWEEN DESARDA`S REPAIR
VERSUS LICHTENSTEIN REPAIR IN INGUINAL HERNIA**
Synopsis for M.S. (General Surgery)



By
Dr. Ahmad Naeem Akhtar

Supervisor
Prof. Dr. Anwar-Ul-Haq
MBBS, FRCS

Department Of Surgery Unit III
Postgraduate Medical Institute
Lahore General Hospital, Lahore.



UNIVERSITY OF HEALTH SCIENCES, LAHORE

Title of Research Project. <i>COMPARATIVE STUDY BETWEEN DESARDA'S REPAIR VERSUS LICHTENSTEIN REPAIR IN INGUINAL HERNIA</i>	
Synopsis submitted for: <input type="checkbox"/> M. Phil <input checked="" type="checkbox"/> M.S	Discipline: General Surgery
Name of the Applicant: Dr. Ahmad Naeem Akhtar	D.O.B 10-04-1977
Nationality: Pakistani	NIC #:35202-5653060-1
Address: House No. 178-Grove Block, Paragon City, Barki Road ,LahoreCantt.	
Phone #:0321 4203635	Email: ahmadnaem172@hotmail.com
Qualifications (list all; with date of graduation): M.B.B.S. Quaid-i- Azam Medical College, Bahawalpur January 2001	

Practical Experience (list all; with dates of employment):

Designation	Name of Department	From	To
House Surgeon	Surgical Unit-I Services Hospital, Lahore	05-06-2001	02-01-2002
House Physician	Medical Unit- I Services Hospital, Lahore	03-01-2002	02-07-2002
Postgraduate Trainee, M.S General Surgery	Surgery Department PGMI/ LGH, Lahore.	02-08-2009	To Date

Name of post-graduate institution, where applicant is currently studying;
Post Graduate Medical Institute, Lahore General Hospital, Lahore

Name of Head of Department: Professor Dr. Anwar-Ul-Haq	Signature:	Date:
Name of Academic Supervisor: Professor Dr. Anwar-Ul-Haq	Signature:	Date:
Name of Principal: Professor Dr. Tariq Salah-Ud-Din	Signature:	Date:
Convener, Ethical Review Committee: Professor Dr. Ghias-Un-Nabi-Tayyab	Signature:	Date:
Chairman (Advanced Studies & Research Board)	Signature:	Date:
<input type="checkbox"/> Approved <input type="checkbox"/> Not Approved Vice Chancellor, UHS		

APPROVAL OF SYNOPSIS FROM ETHICAL COMMITTEE

Certified that we have read the synopsis titled "Comparative study between Desarda's repair versus Lichtenstein repair in inguinal hernia" submitted by Dr. Ahmad Naeem Akhtar, We have found it acceptable ethically and hence is approved for further submission.

Dr. Ghiasun Nabi Tayyab Chairman
Prof. & Head of Department of Medicine
PGMI, Lahore

Mr. Riaz Javed Raja Member
Prof. & Head of Department of Pathology
PGMI, Lahore.

Dr. Najmul Hasnain Member
Prof. & Head of Department of ENT
PGMI, Lahore

Dr. Khalid Bashir Member
Prof. & Head of Department of Aneasthesia
PGMI, Lahore.

To

The Principal,
Post Graduate Medical Institute,
Lahore.

Subject: Submission of synopsis for approval.

Sir,

With due respect, it is stated that I am submitting my synopsis entitled:

**“COMPARATIVE STUDY BETWEEN DESARDA`S REPAIR
VERSUS LICHTENSTEIN REPAIR IN INGUINAL HERNIA”**

For your kind consideration, approval & further submission to the University of Health Sciences, Lahore for final approval.

Thanking you,

Yours Obediently,

Dr. Ahmad Naeem Akhtar
PG Trainee MS- General Surgery,
PGMI/Lahore GeneralHospital,
Lahore.

PARTICULARS OF STUDENT

NAME: Dr. Ahmad Naeem Akhtar

QUALIFICATION: M.B.B.S

DESIGNATION: Post Graduate Trainee.

PRESENT PLACE OF APPOINTMENT:

Surgical Unit III, Department Of Surgery, Lahore General Hospital/PGMI,
Lahore.

PARTICULARS OF RESEARCH SUPERVISOR

NAME : Prof. Anwar-Ul-Haq

QUALIFICATION : FRCS General Surgery

DESIGNATION : Head of Surgical Unit III

PRESENT PLACE OF POSTING: Surgical Unit III, Department of Surgery, Lahore General Hospital/PGMI, Lahore.

Acceptance of responsibility _____

Remarks and recommendation of the Supervisor _____

Signature _____

Official Stamp:

To

The Registrar (Academics),
University Of Health Sciences,
Lahore.

Subject: Budgetary requirements to conduct a research project

Sir,

With reference to the letter No.UHS/EDUCATION/126-09/1786 Dated 18-07-2009, I am here by submitting the budgetary requirement to conduct a research project. My research is "Comparative study between Desarda's Repair versus Lichtenstein repair in inguinal hernia."

Study will comprise 50 patients. Approximate cost of 50 patients is Rs.90,000. The list of all drugs and suture material required are mentioned in detail on next with their cost. As per government policy all the operating material is provided free of cost by the institution. Other items required in my research project are mobile phone, computer, printer, scanner, cupboard and statistical analyst, their approximate cost is Rs.40,000/=. Total budget requirement in my research Project is about Rs.50,000+ 40000= 90,000/=

Thanks.

Yours Obediently,

Dr. Ahmad Naeem Akhtar
PGR MS (Surgery)
PGMI/ LGH. Lahore.

APPLICATION FOR SUBMISSION OF A RESEARCH PROJECT
Comparative study between Desarda repair versus Lichtenstein
repair in inguinal hernia

Principal Investigator Professor Dr Anwar-Ul-Haq. M.B.B.S,FRCS.

1. Department of Surgery, Unit III, PGMI/L.G.H, Lahore
2. Duration of project is one year.
3. Total funds requested= Rs.90,000/=.
4. If a grant is made, I will ensure that the funds provided are used for the purpose for which they have been given. I also agree to submit in proper form interim and final reports of the work as and when required by the Council, and to make available the records of my research to person/persons deputed by the Council to inspect the progress of my research project.

Date:_____

Signature:_____

(Principal Investigator)

It is certified that Dr. Ahmad Naeem Akhtar is PG Trainee MS (General Surgery) and working in Surgical Unit III, Department of Surgery PGMI/L.G.H, Lahore under supervision of Professor Dr . Anwar-ul-Haq, Professor of Surgery, Head of Surgical Unit III, PGMI/L.G.H, Lahore. It is certified that the existing facilities of the departments concerned will be made available to the candidate to carry out his research project.

Date:_____

Signature:_____

(Head of Institution)

RESEARCH PROPOSAL BUDGET

TABLE-1 PERSONNEL: EXPENDITURE ON SALARIES AND

HONORARIA

Category of personnel (please specify scale of pay)	% Of Full time on project	Year 1 Rs.	Year 2 Rs.	Year 3 Rs.	Total Rs.
Professional scientific staff Name and title (if available)					
1.					
2.					
Technical Staff Name and Title (if Available)					

1.					
2.					
Other staff (Title)					
1.					
2.					
SUB-TOTAL:					

Note: This table is not applicable in my research project as I am working in a tertiary care unit where all professional, scientific and technical staff is available.

TABLE-II OPERATIVE EXPENSES

Item	Year 1 Rs.	Year 2 Rs.	Year 3 Rs.	Total Rs.
Consumable supplies				
i. Chemicals / drugs	Nil	Nil	Nil	Nil
ii. Glassware	Nil	Nil	Nil	Nil
Data analysis	10,000	Nil	Nil	10,000
Any other (please specify)	Nil	Nil	Nil	Nil
Sub-Total	10,000			10,000

NOTE: All chemicals, drugs and other suture material which I will require will be provided by the institution.

TABLE-III INDIRECT COST

Item	Year 1 Rs.	Year 2 Rs.	Year 3 Rs.	Total Rs.
Stationary	5000 (Mobile phone)	Nil	Nil	5000
Literature reprints	Nil	Nil	Nil	Nil
Petrol/Diesel	Nil	Nil	Nil	Nil
Sub-Total	5000	Nil	Nil	5000

TABEL-IV TRAVEL WITHIN COUNTRY

(for projects involving field work only)

Travel (please specify)	Year 1 Rs.	Year 2 Rs.	Year 3 Rs.	Total Rs.
Sub-Total				

Note: This table is not applicable in my research project as there is no field work.

TABLE-V PERMANENT EQUIPMENT REQUIRED

Item	Quantity	Approximate Cost Rs.
Computer P-IV	01	10,000
Printer	01	5000
Scanner	01	5000
Cupboard	01	5000
Sub-Total	04	25,000

TABLE-VI BUDGET SUMMARY

Item	Year 1 Rs.	Year 2 Rs.	Year 3 Rs.	Total Rs.
Personnel (Table 1)	Nil	Nil	Nil	Nil
Operating expenses (Table II)	10,000	Nil	Nil	10,000
Indirect Cost (Table III)	5000	Nil	Nil	5000
Travel within country (Table IV)	Nil	Nil	Nil	Nil
Permanent equipment required (Table V)	25,000	Nil	Nil	25,000
Sub-Total	40,000	Nil	Nil	40,000

TABLE-VIIBUDGET JUSTIFICATION

Item	Justification
Personnel (Table I)	This table is not applicable in my research project as I am working in a tertiary care unit where all professional scientific and technical staff is available.
Operating Expenses (Table II)	Statistical analyst required to maintain data. .
Indirect Cost (Table III)	Mobile phone is required to remain in contact with patients for their regular follow up.
Travel within the Country (Table IV)	This table is not applicable in my research project as there is no field work.
Permanent equipment required (Table V)	Computer, printer and scanner is required for maintaining data and printing purposes and cupboard is required for record keeping.

Comparative study between Desarda`s repair Versus Lichtenstein repair in Inguinal Hernia

PG student: Dr. Ahmad Naeem Akhtar

Total patients 50 Divided into 2 groups

Group A cost

Approximate cost of 01 Patient = Rs.500/=

Approximate cost of 25 Patients =Rs.12,500/=

Group B cost

Approximate cost of 01 Patient = Rs.1500/=

Approximate cost of 50 Patients =Rs.37500/=

Total Group A and B cost is =12,500+37500= Rs.50,000/=

ESTIMATED COST

Group A

Polypropylene mesh	=500/=
--------------------	--------

Total for one Patient

Total=500/=

Total for 25 Patient	Total= 12,500/=
----------------------	-----------------

Group B

Polypropylene mesh	=1500/=
--------------------	---------

Total for one Patient

Total=1500/=

Total for 25 Patient	Total= 37,500/=
----------------------	-----------------

Project Summary:

Inguinal hernia is an abnormal bulge or protrusion of viscus or a part of viscus in the inguinal region. It occurs through a weak point in the Inguinal canal. This is the most common problem of the human beings and remains the most common surgical procedure world over. About 25% of males and 2% of females develop inguinal hernia. This is the most common hernia in males and females.

Data from developing countries is limited hence exact prevalence and incidence is not known. Gender and anatomic distribution of hernias is believed to be similar to developed countries. Generally most of the hernias occur in the groin in adults. Approximately 75% of all hernias occur in the groin; two thirds are indirect and one third are direct.

Indirect inguinal hernias are the most common hernias in both men and women with right sided predominance.

Indirect inguinal hernias usually present during first of life but they may not appear until middle or old age. Direct inguinal hernias occur in old age due to weakness of the posterior abdominal wall.

About 90% of inguinal of inguinal hernias occur in males.

Inguinal hernia remains one of the most common surgical operation with an incidence of 75% , and poses continuous challenge to the surgeons world over as far as surgical technique is concerned.

This study will compare the efficacy of Desarda repair and Lichtenstein repair techniques in inguinal hernias. Formal approval from the ethical committee and a written consent from each patient will be obtained before proceeding. A total of 50 patients having inguinal hernia admitted from the surgical outpatient department of Lahore General Hospital will be included in the study. The patients will be randomly categorized into two groups: Desarda repair (25 cases) & Lichtenstein repair (25 cases) groups. Results in both the groups will be noted, regarding duration of operation, cost of surgery, ambulation, hospital stay, early & late wound complications, and recurrence. Follow up will be done for one year. Results will be tabulated and all the data will be analyzed by the SPSS version 10 to reach on a conclusion.

Ethical Considerations:

Approval from the ethical committee:

Proper approval will be taken from the members of the ethical committee and all aspects of research study will be explained. The institutional review board will go through it and see if the study is appropriate socially and ethically, and is feasible to be conducted on human participants.

Proper Informed Consent:

All patients with inguinal hernias, fulfilling the inclusion criteria admitted Through the outpatient department. Formal approval from the ethical Committee and a written consent from each patient will be obtained before Proceeding. The patient will be explained the outcome and the hazards involved if any.

Planning research:

Proper planning and conducting research in reporting research findings, and time duration involved in the research for appropriate results will be observed, to minimize the misleading aspects and to ensure the dignity and welfare of the patients and all those who are affected.

Responsibility:

State and Federal Laws:

All research conducted by psychologists must comply with state and federal laws and regulations. For example, if the state in which the research is conducted prohibits the consumption of alcohol by anyone under the age of 21, the research project cannot involve giving alcohol to participants under the legal age.

Reporting Results and Plagiarism:

Ethical researchers do not fabricate or falsify data in their publications. If the experimenter discovers that the data published are erroneous, it is the experimenter's responsibility to correct the error through retraction and addendum or other appropriate means. In addition the ethical researchers do not present the work of others as their own or do not fail to give appropriate credits for the work of others through citations.

Review of literature/Introduction

Comparative study of Desarda`s repair versus Lichtenstein repair in Inguinal Hernia

Abnormal protusion of viscus or a part of viscus through a weak point in inguinal canal.(VadinSherman,James.....Inguinal hernia chap 37,txt book Schwartz`principle of surgery 9thed,page 1305).

Inguinal hernia remains one of the most common surgical operation with a long term incidence of.....(schumpelickV,Klinge U 117-23 ,06)

History of hernia repair dates back to **Egyptcian era**. The Egyptian Papyrus of Ebersn(circ 1552 BC) contains an observation on hernia:The mummy of pharaoh Mernept(19th dynasty,1224-1214BC) showed a large wound in the groin,with the scrotum separated from the body from which thorwald inferred that surgery had been performed on a scrotal hernia. The mummy of Rames 5 (20th dynasty, 1156 - 1151 BC) had an un-mistakenable hernia sac in the groin.The writtings describe that the surgeons of that era used to repair hernia even at that time.Although from 16th-17th century in Italy and France,universities and institutions worked on hernia but it was **Astlay Cooper in 18th century** described the anatomical boundries of inguinal hernia for the first time.Debates for the best turgical treatment of hernia continued but results regarding recurrence rate were unsatisfactory.(W.Y.Lau,history of groin hernia,02;26(6)748-59). Introduction of anaesthesia resulted in modern hernia surgery(**19th-mid 20th century**).Three rules;antiseptic,aseptic and high ligation of hernia sac even resulted in poor results.Recurrence 100% and post operative mortality 7%(Folia and Cracove 08).In **1888 Edoardo Bassini** comprehensively described the inguinal canal.His technique resulted in increased tention in suture line and tissue ischemia and high recurrence rate of 10%(BrijB.Agarwal,Saudi Journal of Gasroentrology2010;16(1):1-2)_(TehemtonEudwadia:Journal of minimal access surgery2006;2(3):144-146).**Mcvay and shouldice in 1945** modified this technique(Chin Keung can,Gabrielchan,Journal of minimal access surgery 06;2(3):124-128)-(Schumpelick,ArltG,Zentraibi,Thieme Journal,2002;127(7):565-569).Different comparative studies later on demonstrated that all these procedures are associated with high recurrence rate ranging from 6-10%(J.H Alaxander,J.HBoillot journal of minimal access surgery ;2006;2(3):134-138).In 1958 Usher etal first time introduced the hernia repair with high

density mesh(Read RC.Milestones in history of hernia surgery 2004;8:8-14)-
Flum,DR;Harvath,K ;Ann.surgery 2003;237(1):129-135)-
(KingsnorthA,LeblaneK,HerniasLancet 2003;362(93-95):1561-71).In **1983**
Rene Stoppa and Rives introduced the Dacron mesh in preperitoneal space
and reported recurrence rates were 1.4%(Folia med cracov2008)-(Hamilton
Le,Jeffery S.Bender,A.J.S.2005;189(3):373-75)-Petersen ,Henke
G,Plastreconstr surgery2004;114(7):1754-60)-(Langer C,LierschT,Kley C
2003). **In 1986 Lichtenstein** did onlay mesh reapiir.(SrparhCelok
Lek,2003).His technique became gold standard and he advocated placement
and fixation of marlex mesh with surrounding tissue for repair of recurrent
inguinal hernia with negligible rate of
1%(GiampiereCampanelic,PetternicDeigo,CawalicMarta,Journal of minimal
access surgery 2006)_ (Beltran,Maecelo,Crues,Karina.World journal of
surgery 2006).After that many surgeons performed Lichtenstein repair with
different ways,some did sutureless mesh repairs and advocated in its favour
like **Gilbert in 1992**(Keith W molikan, 2008).**Trabucco et al**(1989-
1997),**dr.Good Year et al** (2000)(Wilkowskiabnante,fedoror,L.slavim,
2006)_ (Ayd maltanMD,internet journal of medical update
2010)_ (Pankajgarg,Mahesh Raj Gopal,VinaVarghese,M.ismail,June
2009)_ (R.Plisko,L.Metz,M.Dziewiatka 2008).**In 2001an indian surgeon**
Mohan P.Desarda introduced a new technique of natural mesh of
undetached strip of external oblique aponeurosis which strengthens the
posterior wall of inguinal canal (Pol MerkurLekarsaki 2008 May).It resulted
in recurrence rates of less than 1% and (Manyilirahw,Kijjambus,upoki
A,2011) early ambulation,less cost and less chances of foreign body
infection.

The rationale of this study is to compare the outcome of desarda`s
repair technique of inguinal hernia with that of Lichtenstein mesh
hernioplasty procedure by the variables defined and to assess the cost
effectiveness of the better technique and the repair that is safer for the
patients to decrease complications,morbidity and economic burden of the
patients in our setup where poverty, illiteracy and un-awareness of masses
and ill planning , lack of resources and unavailability of surgical material is
also a problem.

METHODS AND MATERIALS

OBJECTIVES:

The objective of this study is to;

Evaluate the effectiveness of Desarda repair in the management of inguinal hernia as compared to Lichtenstein repair .”

Operational definitions:

Outcome variables of this study will be measured as



1: Pain after operation which will be measured by visual analogue scale.

2: Duration of operation (from the onset of general anesthesia to patient's recovery)



3: Stay in hospital after operation

4: Early and late complications of operation.

Early complications will include Hematoma formation and early recurrence. Late complications will include Sinus formation, wound infection. Recurrence and mesh rejection. This study will assess the cost effectiveness of the better technique and the procedure that is safer for the patient to decrease complications, morbidity and the economic burden of the patients.

Inguinal hernia :

Abnormal protrusion of a viscus or part of viscus through a point in inguinal canal.

Desarda repair technique:

This technique in which the natural mesh (external oblique mesh) is placed over the fasciatransversalis (posterior abdominal wall). The cord is then placed on the external oblique posterior wall then the external oblique is closed.

Lichtenstein repair technique:

The Lichtenstein repair technique in which the mesh is placed over the Posterior abdominal wall (fasciatransversalis) and cord is placed over it then external oblique is closed.

HYPOTHESIS:

Desarda repair in inguinal hernia has less recurrence and post-operative complication rate as compared to Lichtenstein repair technique

STUDY DESIGN:

Randomized controlled trial.

SETTING:

Surgical Unit III Lahore General Hospital/ Post Graduate Medical Institute, Lahore.

Duration of Study:

Six month after the approval of the synopsis.

Sample Selection:

Sample Criteria

Inclusion Criteria:

All patients with the diagnosis of reducible inguinal hernia will be included in this study

Exclusion Criteria:

Incarcerated hernia .

Emergency surgery, bowel obstruction, strangulation.

Presence of local or systemic infection.

Immunocompromised patients.

Sample Size:

A total of 50 patients having inguinal hernias admitted from the surgical OPD of LGH will be included in the study. They will be randomly categorized in two groups as Desarda's repair and Lichtenstein repair groups. Sample size will be obtained as 30% better results in Desarda technique, 95% Confidence level, 5% Alpha error and 90% is Power.

$$\frac{\{(\mu\sqrt{\pi(1-\pi)} + v\sqrt{\pi_0(1-\pi)})\}^2}{(\pi - \pi_0)^2}$$
 formula will be applied.

25.34 patients in each group + 10% dropped case error = 32 patients in each group.

Sampling technique

Simple random sampling will be used; Patients will be assigned to either of the two groups using random number table. The study would be conducted after formal approval from the ethical committee and proper consent of the patients.

Data Collection Procedure:

Fifty patients will be admitted from OPD of Lahore General Hospital Lahore fulfilling inclusion criteria.

All admitted patients will be diagnosed on the basis of history, clinical examination and relevant investigations.

Proven cases fulfilling with inclusion and exclusion criteria will be divided into two groups, group A and group B.

In Group A patients; Desarda's repair
In Group B patients; Lichtenstein repair

Informed consent will be obtained before operation.

Results regarding, pain, wound infection, wound hematoma, formation seroma formation, wound edge necrosis, recurrence, stay in hospital and time to return to job will be entered into proforma and later on analyzed by statistics.

Follow up:

Follow up will be done in the outdoor department for six months,

1st visit after ten days for stitch removal and early complications,

2nd visit two weeks after the 1st to see wound complications like infection, hematoma formation and early recurrence,

3rd visit one month after the 2nd visit, and

4th after 6 months of surgery to see late wound complications, sinus formation, recurrence of hernia and mesh rejection.

Data analysis procedures.

Data will be analyzed by SPSS version 11. Variables to be analyzed will include, stay in hospital and complications like pain, wound infection, seroma formation and time to return to job. The variable analyzed by using simple descriptive statistics, mean and standard deviation for quantitative variable, like stay in hospital and frequency % for qualitative data like complications.

P value less than 0.05 will be taken as significant.

Ethical considerations:

This study is to compare two techniques of inguinal hernia repair. The outcome variables will be noted on a proforma attached to each patient's file. The patients included in this study will be properly explained both techniques. Approval of the willing patients will be taken on a consent form without any pressure. If any complication of anesthesia or surgery occurs endangering any patient, he will not be added in the research and will be properly looked after in ICU (if required). Responsibility for the welfare of the participating patients will be taken, protecting them from harm, unnecessary risks, or mental and physical discomforts inherent in the research, any potential harm and danger to the patient is not allowed. All these ethical considerations will be kept in mind before continuing the research.

References

- Beltran, Marcelo, Crules, Karina: outcome of Lichtenstein Hernioplasty for primary and recurrent inguinal Hernia world journal of surgery dec 2006;30(2):2288-2289.
- Brij B Agarwal, Atricles inguinal hernia repair challenges beyond zero Recurrence; Saudi Journal of Gastroenterology 2010;16(1):1-2
- Chin Keung chan, Gabreilchan: shouldice technique for treatment of inguinal hernia; Journal of minimal access of surgery 2006;2(3):124-128
- Desarda MP Hernia 2006 Apr;10(2);143-6 Epub 2005 Dec 9
- Desarda MP ANZ J Surg. 2001 Apr;71(4);241-4
- Giampiere Campanelic, pettetnic Diego, Cawalic Marta, Ettore Contessine Accen asani: Modified Lichtenstein hernia repair using fibrin glue; journal of minimal Access sirgry 2006;2(3):129-133
- J.H Alaxander, J.H Boillot, P Dupin, K Aouad, J.P Bethoux: Cure of inguinal hernia with large pre-peritoneal prosthesis experience of 2314 cases; Journal of minimal Axxess of surgery; 2006;2(3):134-138
- kingsnorth A, Leblane K, Hernias: inguinal and Incisional. Lancet 2003;362(9395):1561-71
- Legutko J, Pach R, Solecki R, Matyja A, Kulig J, Folia Med Carcov. 2008;49(1-2):57-74.
- Milic` DJ, Pejic` MA Spr Arh Celok Lek. 2003 Jan-Feb;131(1-2);82-91
- Mitura K, Roman` czuk M. Pol Merkur Lekarski. 2008 May;24(143):392-5.
- Manyliarah W, Hernia 2011 Oct 8 (Epub ahead of print)
- Read RC. Milestones in the history of hernia surgery: prosthetic repair Hernia 2004;8:8-14

Schumpelickv,KlingeU,RoschR,.Light Weight meshes in Incisional hernia repair Min Accessurg 2(3):117-23,2006

Schumpelick,Arlt g ,Zentraibi:TheShouldice repair for inguinal hernia technique and results;US National Libery of Medicine,theime Journal,2002;127(7):565-569

TehmotonEudwadia:Inguinal hernia Repair the total picture,Journal of Minimal Access of Surgery 2006;2(3)144-146.

VadinSherman,James,R.Macho, and F.CharlesBrunicardes Inguinal Hernia Chapter 37 Text Book of Schawartz`s Principles of Surgery Ninth edition page 1305.

W.Y.Lau,history of treatment of groin hernia,World.j.surg 2002;26(6)748-59

Proforma

Comparative study between desarda repair versus
lichtenstein repair In Inguinal Hernia

Case No. Hospital Reg. No.

.....

Name.....

Age..... Sex.....

Address.....

.....

Mode of admission.....

Profession.....

CNIC #..... Socioeconomic
status.....

Date of admission..... Duration of Disease.....

Date of operation..... Gilbert's Grade.....

Hospital Stay..... Operation time.....

Diagnosis.....

Category of Surgeon(consultant/Resident/House
officer).....

Duration of disease..... Smoker.....

Associated disease Family

History.....

Sr. No.	Variables	Desarda Repair	Lichtenstien Repair
1.	Operation time		
2.	Operation theatre Emerg/elective		
3.	Back to work		
4.	Cost of surgery		
5.	Hospital stay		
6.	Ambulation		
7.	Pain		
8.	Urinary retention		
9.	Haemorrhage		
10.	Haematoma		
11.	Wound Infection		
12.	Scrotal Swelling		
13.	Loss of sensation		
14.	Scar Formation		
15.	Seroma formation		

Follow up:

Complications	1 st visit	2 nd visit	3 rd visit	4 th visit	5 th visit	6 th Visit

Conclusion:

Consent Form

REG. NO _____

I _____ F/O, M/O, Guardian of

Acknowledge that doctor AHMAD NAEEM AKHTAR has informed me about his research titled “Comparative study of Desarda repair versus Lichtenstein repair in inguinal hernia” under the supervision of Prof. ANWAR-UL-HAQ

I have also been informed regarding the purpose, nature, aim and objective of the study procedure as well as expected risks.

All the information in this process will be kept confidential and the data will be utilized for research purpose only. I have been informed that I can be asked any type of question related to the study.

In case of any problem during the procedure, I shall be facilitated in the best possible manner, which has also been elaborated and explained to me. I have also been informed that the research is not just in benefit of a single person but for humanity at large.

I give my full consent willingness to participate in this study.

Signature of Participant

Signature of Doctor/Researcher

Date _____

