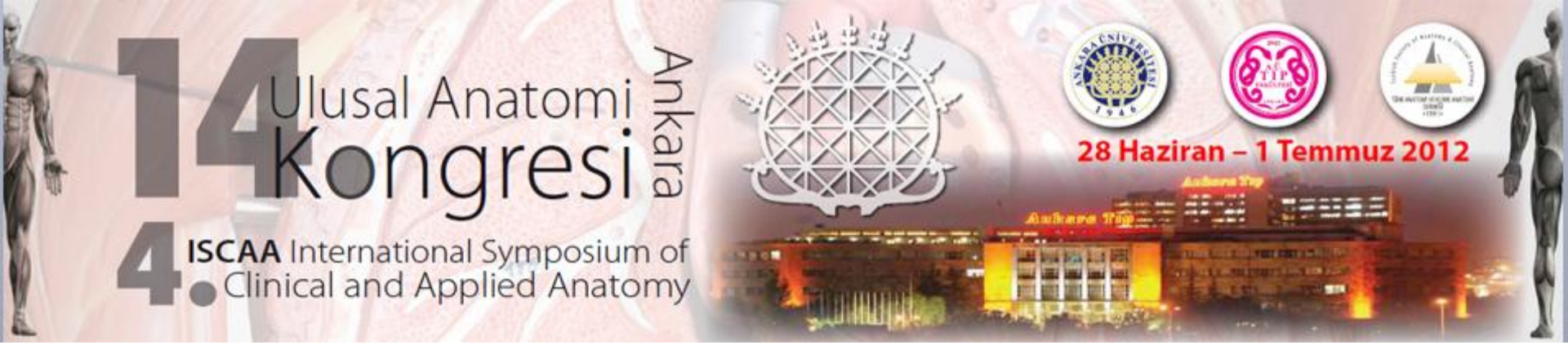


Surgeon-Anatomist collaboration for better repair of inguinal hernia

Hakan KULACOGLU, MD, FACS

Anatomist Surgeons

John Struthers

Sir John Struthers, LRCSE, MD, LLD, FRCSE, FRSE (born, Brucefield, near Dunfermline, Scotland – d.), Professor of Anatomy at the University of Aberdeen

Joseph Pancoast

Joseph Pancoast (November 23, 1805 – March 6, 1882), the renowned American surgeon

Jules Germain Cloquet

Jules Germain Cloquet (18 December 1790 – 23 February 1883), the French physician and surgeon who was born and practiced medicine in Paris

John Hunter

John Hunter FRS (13 February 1728 – 16 October 1793), the Scottish surgeon regarded as one of the most distinguished scientists and surgeons of his day

Konrad Johann Martin Langenbeck

Konrad Johann Martin Langenbeck (5 December 1776 – 24 January 1851), the German surgeon, ophthalmologist and anatomist who was a native of Horneburg

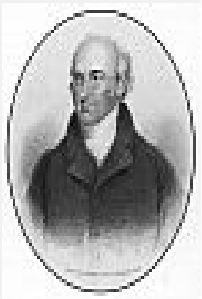
Jean Louis Petit

Jean-Louis Petit (13 March 1674 – 20 April 1750), the French surgeon, and the inventor of the tourniquet

Anatomist Surgeons
with specific interest to the inguinal region

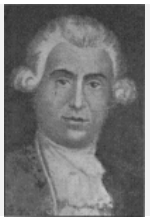
Astley Cooper

Sir Astley Paston Cooper, 1st Baronet, the English surgeon and anatomist, who made historical contributions to otology, vascular surgery, the anatomy and pathology of the mammary glands and testicles, and the pathology and surgery of hernia



Antonio de Gimbernat

Antoni de Gimbernat (1734-1790), the Spanish surgeon and anatomist

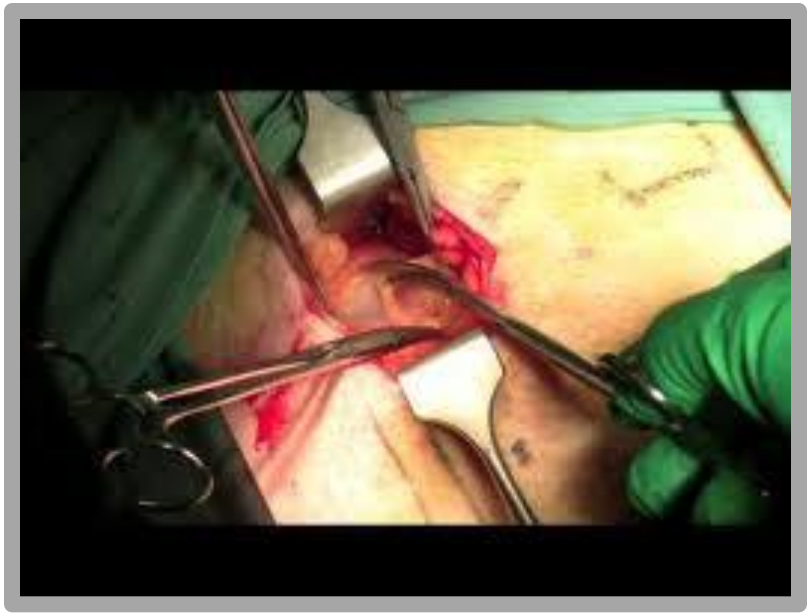


Anatomy…
very first specific class
in medical education

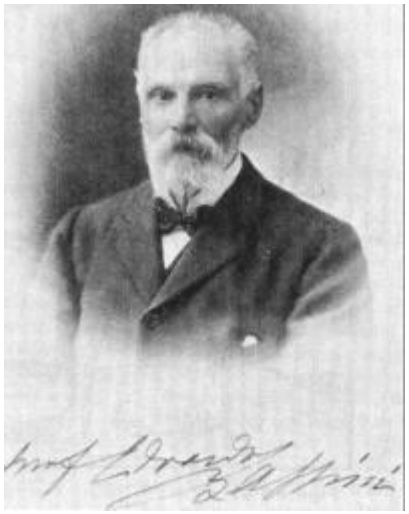
Kaplan Arıncı
1930-2000

Alaittin Elhan

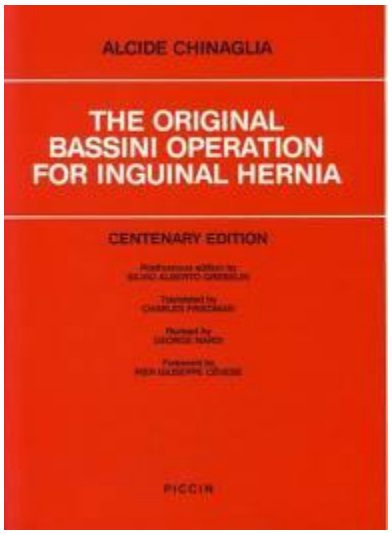
Inguinal Hernia Repair…
first operation
in surgical residency



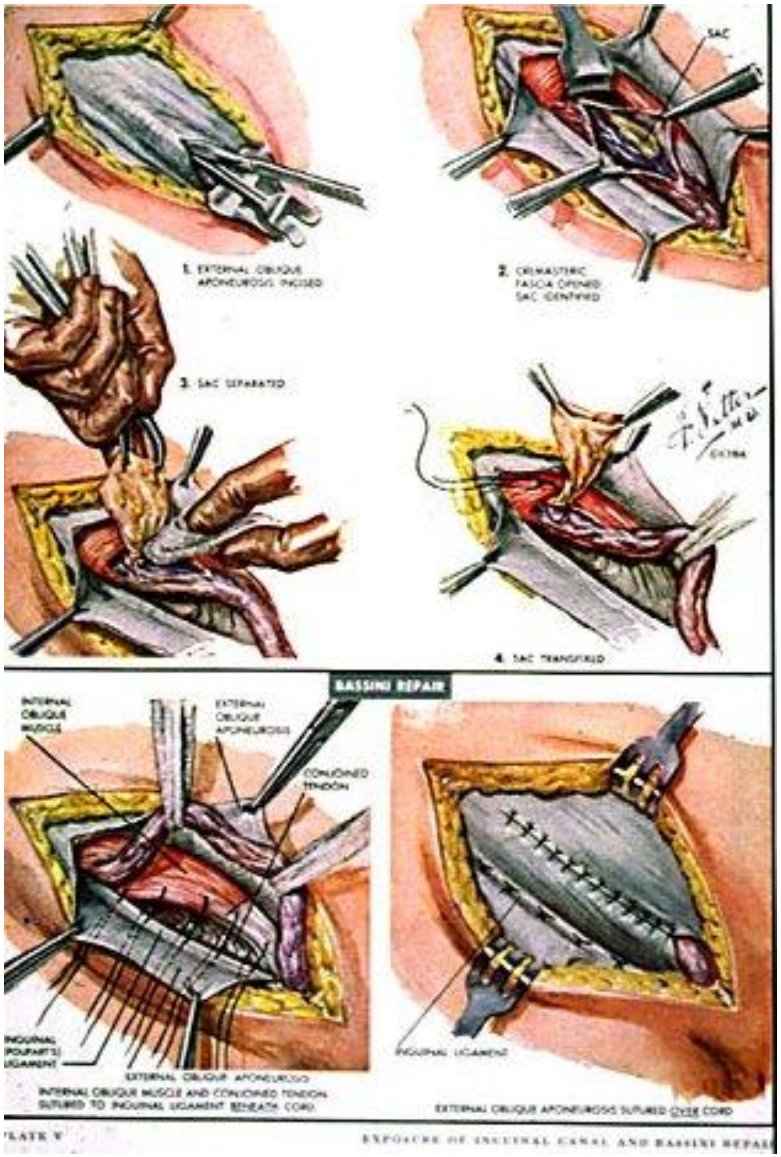
Modern era in ingunal hernia repair



Eduardo Bassini
1844-1924



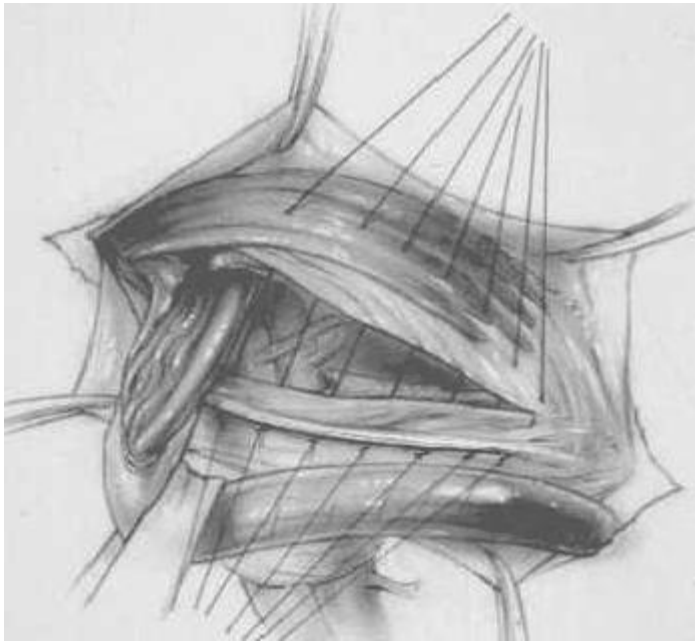
Original Bassini Repair



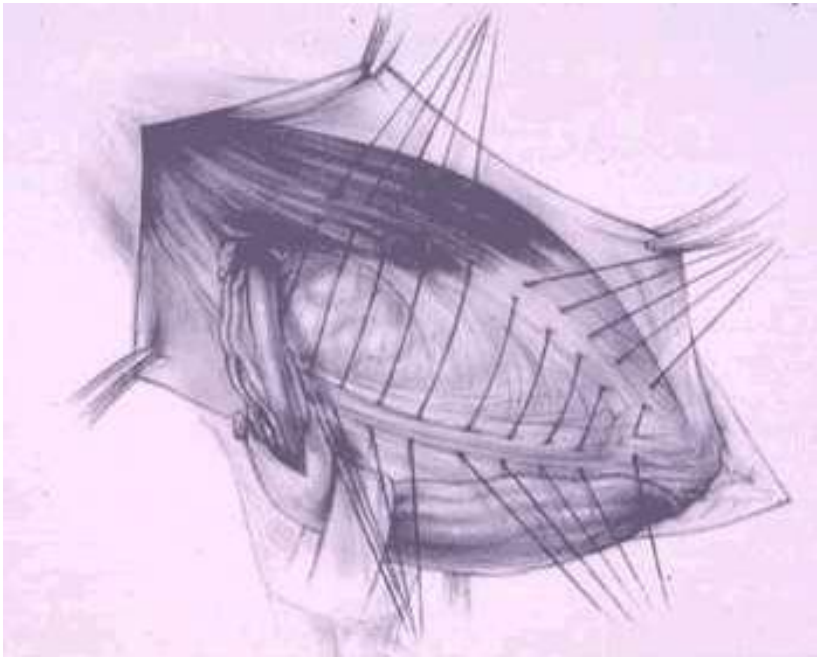
Triple layer:

- edge of the transversalis fascia
- transversus abdominis muscle
- internal oblique muscle

Original Bassini Repair

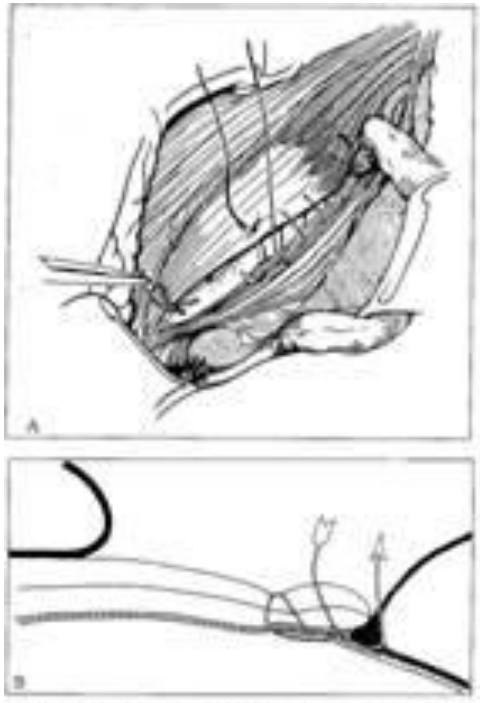


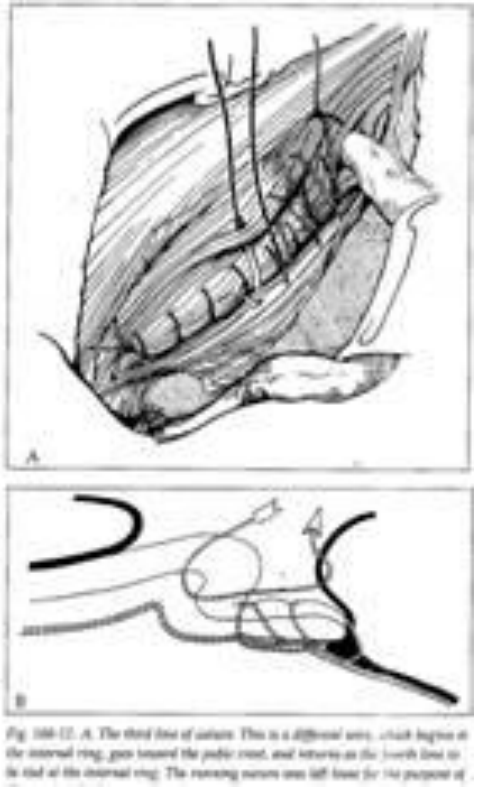
Modified Bassini Repair



Shouldice Repair

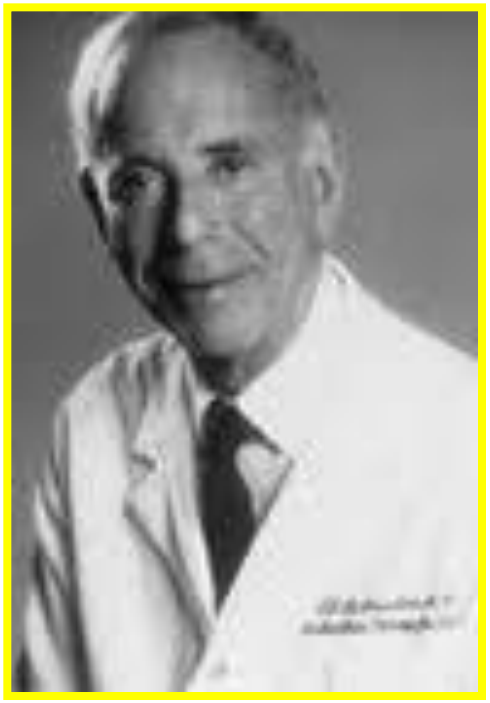
Edward Earle Shouldice
1890-1965



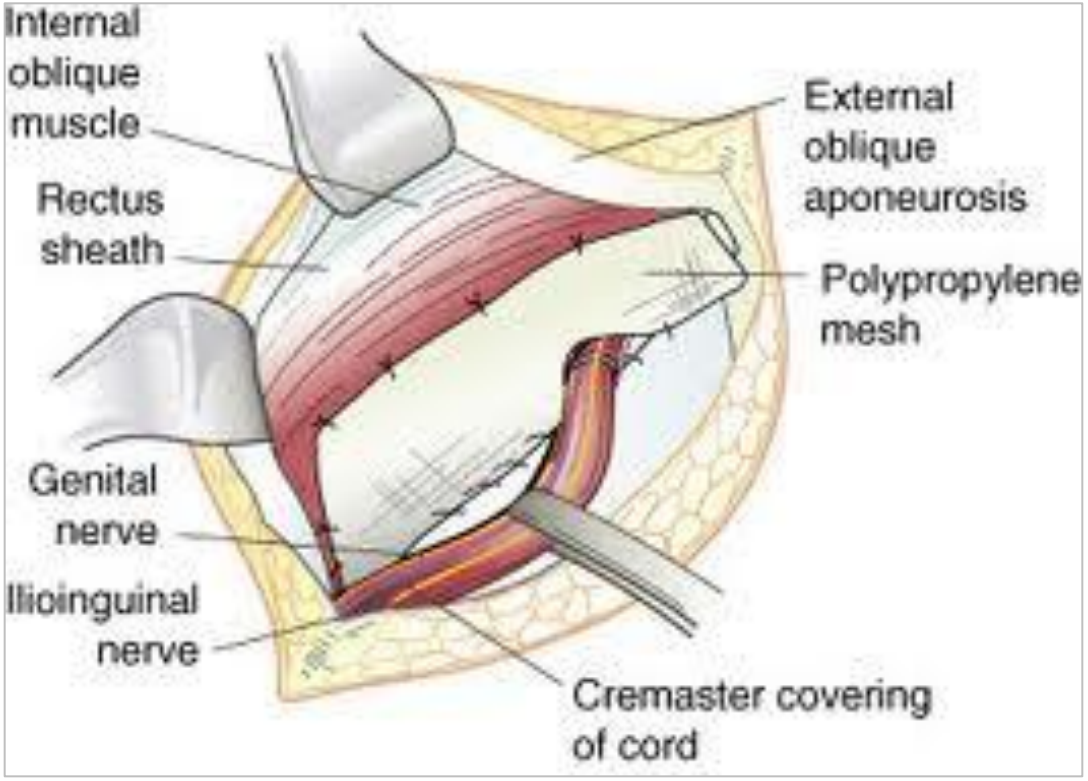


Shouldice Repair

Lichtenstein Repair



Irving Lichtenstein
1920-2000



Parviz Amid, MD

Dr. Parviz Amid, a fellow of the American College of Surgeons and Royal College of Surgeons of Engla and Professor of Clinical Surgery at the UCLA David Geffen School of Medicine, is the Executive Direc of the Lichtenstein Amid Hernia Institute. Dr. Amid was the cofounder of the Lichtenstein Hernia Institut and helped to define the modern era of hernia surgery. He is an instrumental figure in Herniology and established many of the principles of modern hernia repair and the treatment of chronic pain after herni surgery. He is the cofounder and past president of the American Hernia Society. He has trained expert hernia surgeons from all over the world and has lectured across the United States and throughout Euro Canada, Asia, South America, and Australia. He is an international expert on pain problems after hernia surgery. Learn more about Dr. Amid

University of California, Los Angeles

Lichtenstein Amid Hernia Clinic at UCLA

The Lichtenstein Hernia Institute is the only facility in the United States devoted exclusively to research, teaching and surgery of abdominal wall hernias (inguinal hernia, femoral hernia, umbilical hernia, ventral hernia or incisional hernia).

Learn more about the Lichtenstein Hernia Institute »

PATIENTS CORNER

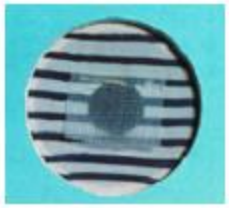
- Request an Appointment
- FAQs
- Patient Resources
- Patient Forms
- Our Expert Team
- Map & Directions

JOIN US ON

CHRONIC PAIN AFTER SURGERY

Chronic pain is a serious problem after **hernia repair**. Our UCLA Interventional Pain doctors have expertise in non-operative management of this challenging condition. Learn more »

LICHTENSTEIN TENSION-FREE HERNIA REPAIR



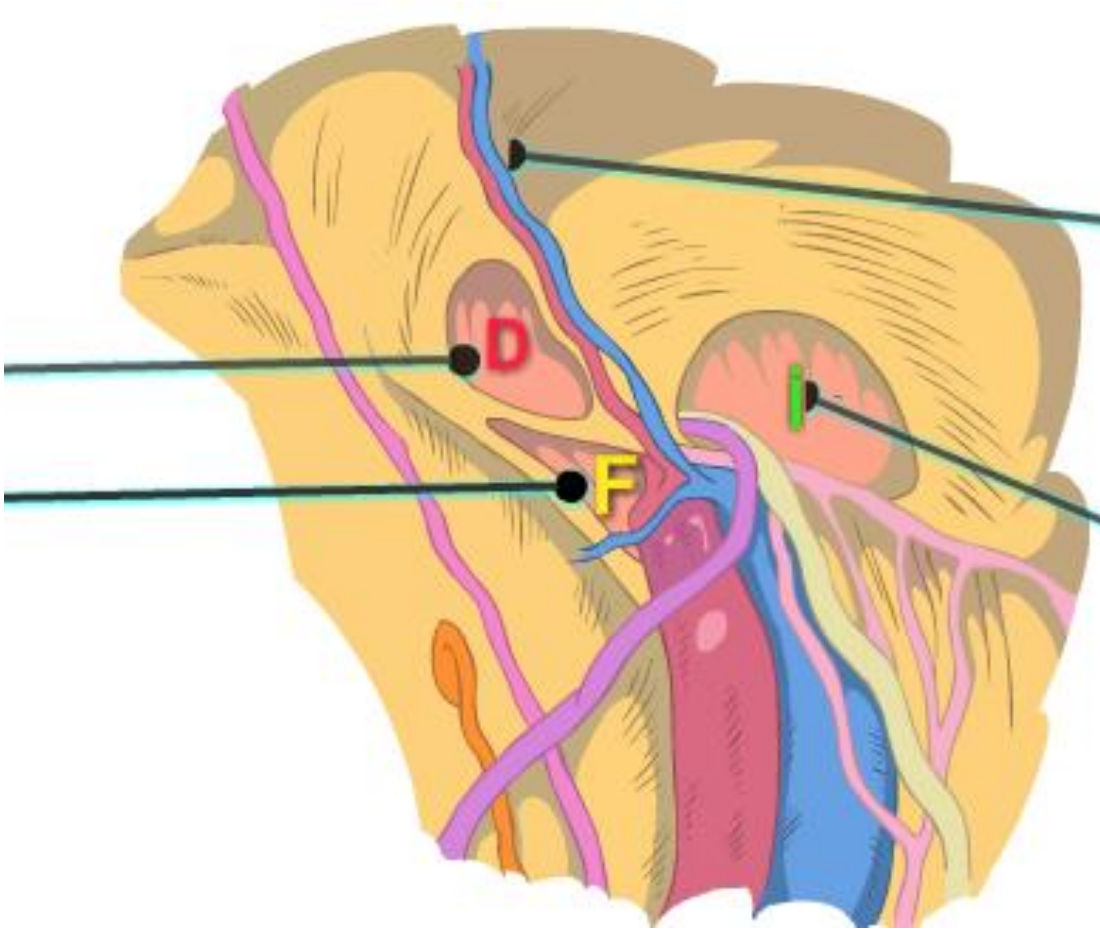
The "tension-free" mesh technique was pioneered by the Lichtenstein Hernia Institute in 1984 and is currently considered the gold standard of hernia repair by the American College of Surgeons.

In this procedure, repair is accomplished by covering the opening of the hernia with a patch of mesh, instead of sewing the edge of the hole together. Learn more »

DO ALL HERNIAS REQUIRE SURGERY?

Hernias that limit activity or cause symptoms should be repaired. Small, asymptomatic hernias may be safety watched but...Read more »

Laparoscopic Anatomy



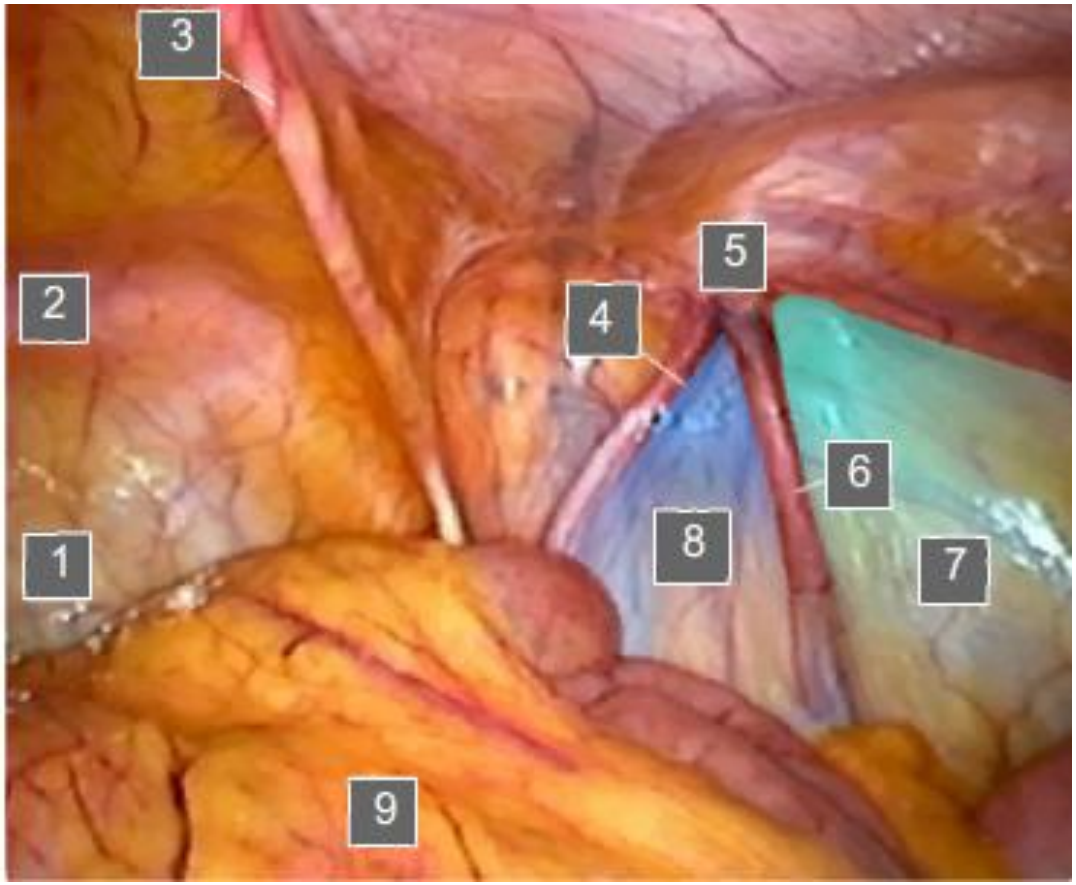
direct hernia

femoral hernia

inferior epigastric vessels

indirect hernia

Laparoscopic Anatomy



1. Bladder
2. Pubis
3. Umbilical artery
4. Ductus deferens
5. Internal inguinal ring
6. Spermatic vessels
7. Danger zone !!! [Triangle of Pain]
8. Doom triangle
9. Omentum and intestines

Let's Study Anatomy

Chirurgia (2010) 105: 809-816
Nr. 6, Noiembrie - Decembrie

Journal of the College of Physicians and Surgeons Pakistan 2012, Vol. 22 (2): 126-127

The Acceptance Rate of Local Anaesthesia for Elective Inguinal Hernia Repair Among the Surgeons Working in a Teaching Hospital

Gaye Seker and Hakan Kulacoglu

Journal of Su
doi:10.1016/j.j

Hernia
DOI 10.1007/s10029-010-0683-y

ORIGINAL ARTICLE

Risk factors related with unfavorable outcomes in groin hernia repairs

M. Akinci · Z. Ergül · B. Kulah · K. B. Yilmaz · H. Kulacoğlu

[2]Chair, Department of Surgery, Professor of Surgery, Diskapi Yildirim Beyazit Teaching and Research Hospital, Ankara, Turkey

Embryology, Ankara University School of Medicine, Ankara, Turkey

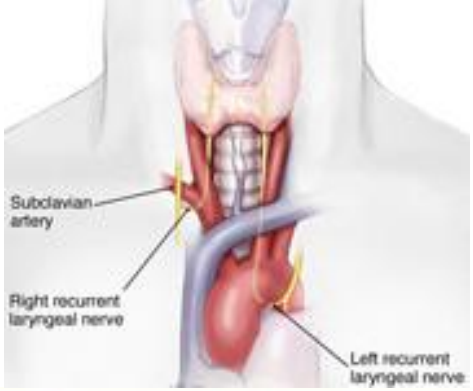
ADVANCES IN SURGICAL TECHNIQUE

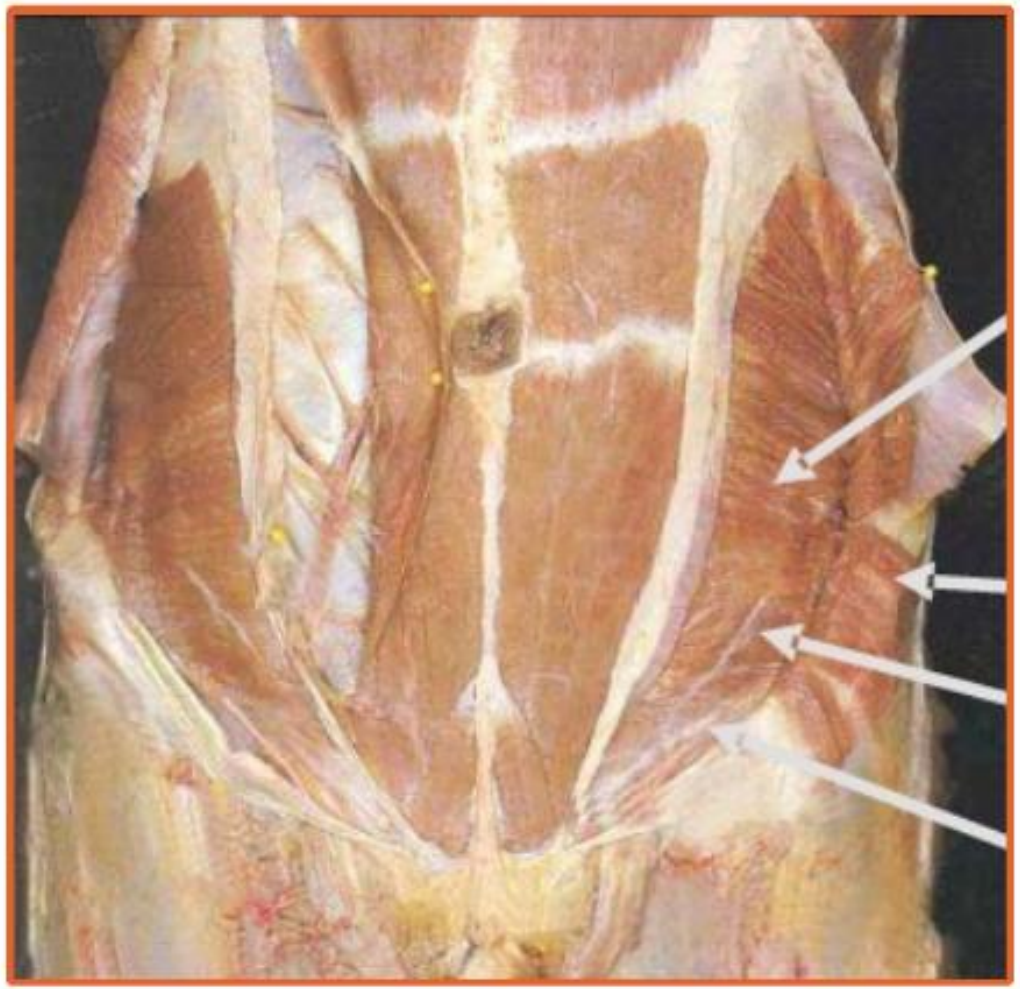
ANNALS OF SURGERY
Vol. 220, No. 6, 735–737

Local Anesthesia for Inguinal Hernia Repair Step-by-Step Procedure

Parviz K. Amid, M.D., F.A.C.S.,* Alex. G. Shulman, M.D., F.A.C.S.,†
and Irving L. Lichtenstein, M.D., F.A.C.S.†

From the Lichtenstein Hernia Institute, Harbor-UCLA Research and Education Institute, Departments of Surgery at the Harbor UCLA and Cedars-Sinai Medical Centers, and Cedars-Sinai Medical Center,† Los Angeles, California*





İnternal Oblique M

External Oblique M

Iliohypogastric Nerve

Ilioinguinal Nerve

Hernia (2011) 15:239–249
DOI 10.1007/s10029-011-0798-9

EDITORIAL

International guidelines for prevention and management of post-operative chronic pain following inguinal hernia surgery

S. Alfieri · P. K. Amid · G. Campanelli · G. Izard · H. Kehlet · A. R. Wijsmuller · D. Di Miceli · G. B. Doglietto

Surgical Treatment of Chronic Groin and Testicular Pain after Laparoscopic and Open Preperitoneal Inguinal Hernia Repair

Parviz K Amid, MD, FACS, David C Chen, MD

J Am Coll Surg 2011;213:531–536.

New Understanding of the Causes and Surgical Treatment of Postherniorrhaphy Inguinodynia and Orchalgia

Parviz K Amid, MD, FACS, Jonathan R Hiatt, MD, FACS

J Am Coll Surg 2007;205:381-385.

Hernia (2004) 8: 343–349
DOI 10.1007/s10029-004-0247-0

ORIGINAL ARTICLE

P. K. Amid

Causes, prevention, and surgical treatment of postherniorrhaphy neuropathic inguinodynia: Triple neurectomy with proximal end implantation

Journal of the College of Physicians and Surgeons Pakistan 2012, Vol. 22 (2): 126-127

The Acceptance Rate of Local Anaesthesia for Elective Inguinal Hernia Repair Among the Surgeons Working in a Teaching Hospital

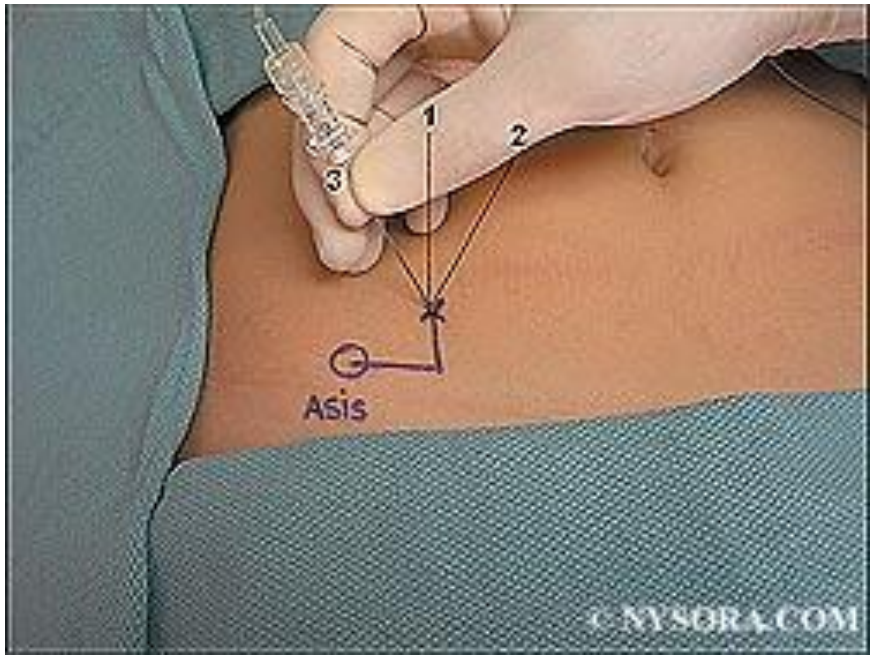
Gaye Seker and Hakan Kulacoglu

Table I: The rates for three different types of anaesthesia used for elective inguinal hernia repair.

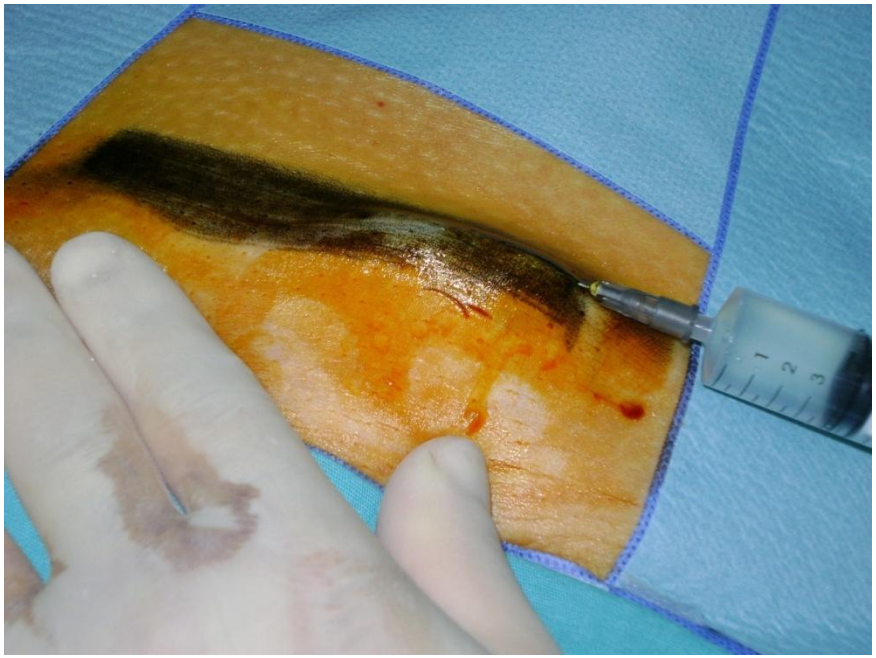
	LA (%)	RA (%)	GA (%)	Day-case (%)
2005	2.1	4.2	93.7	0.0
2010	16.2	20.6	63.2	20.1

generally display conservatism in their practice. In the present audit, LA rate increased following the course, but 2 senior surgeons still never used LA after 5 years. Five surgeons who had more than 10-year experience displayed lower LA rates in comparison with 2 junior surgeons who had less than 3-year of experience.

Percutaneous Nerve Block



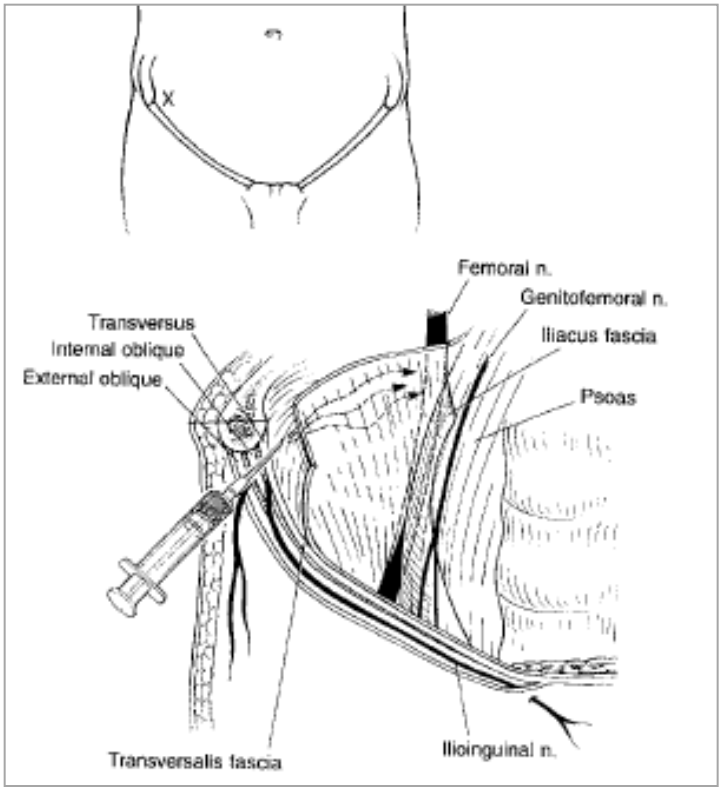
Step-by-Step Infiltration



British Journal of Anaesthesia 1997; 78: 314–316

Mechanism of femoral nerve palsy complicating percutaneous ilioinguinal field block

D. J. Rosario, S. Jacob, J. Luntley, P. P. Skinner and A. T. Raftery



J Korean Surg Soc 2011;81:408-413
http://dx.doi.org/10.4174/jkss.2011.81.6.408

JKSS
Journal of the Korean Surgical Society

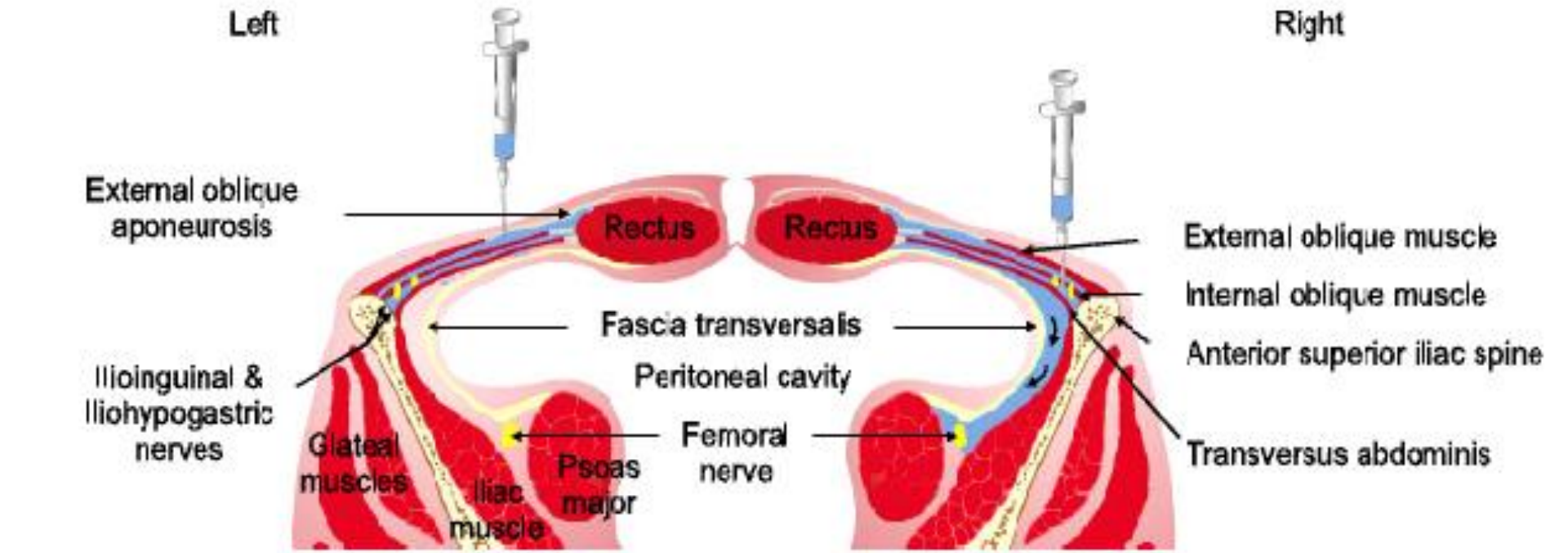
pISSN 2233-7903 • eISSN 2093-0488

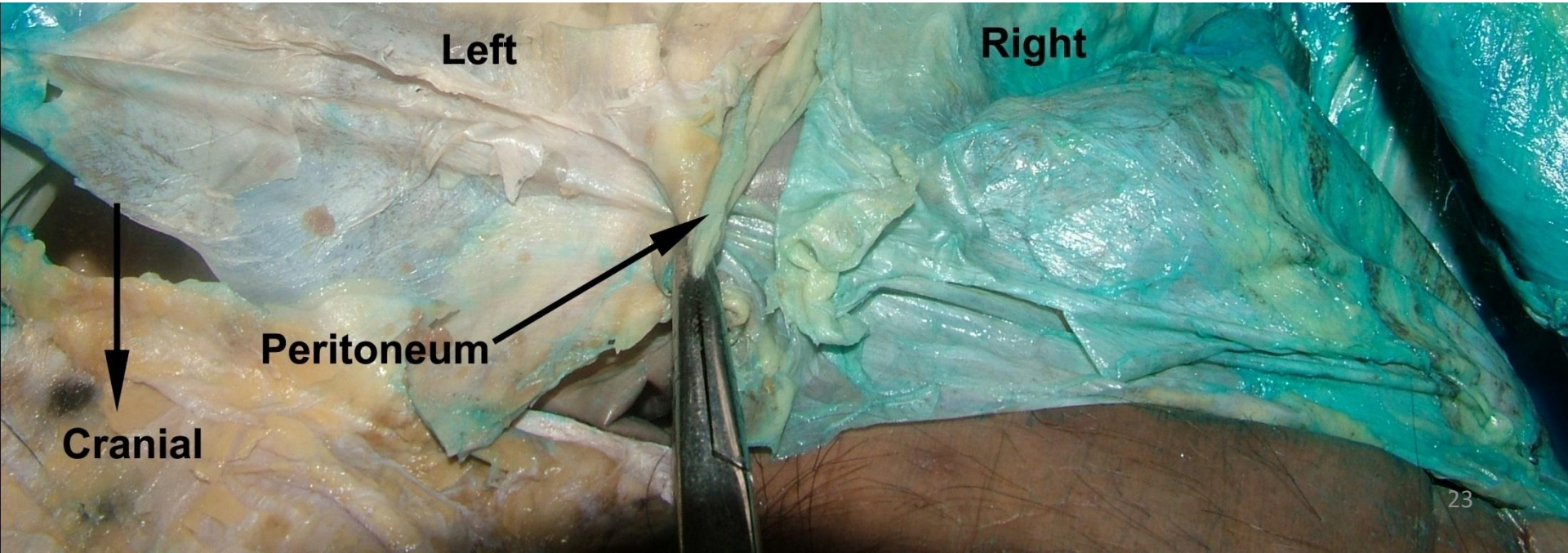
ORIGINAL ARTICLE

Percutaneous ilioinguinal-iliohypogastric nerve block or step-by-step local infiltration anesthesia for inguinal hernia repair: what cadaveric dissection says?

Hakan Kulacoglu, Zafer Ergul, Ali Firat Esmer[1], Tulin Sen[1], Taylan Akkaya[2], Alaittin Elhan[1]

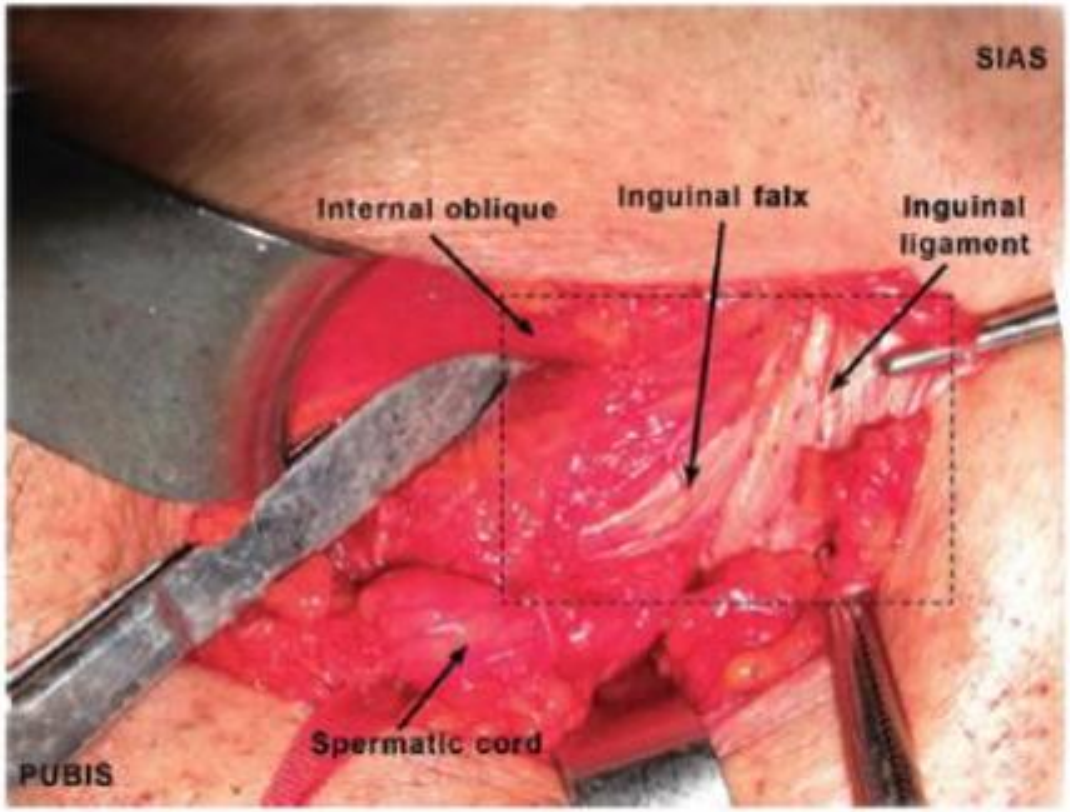
Department of Surgery, Diskapi Yildirim Beyazit Teaching and Research Hospital, [1]Department of Anatomy, Ankara University School of Medicine, [2]Department of Anesthesiology, Diskapi Yildirim Beyazit Teaching and Research Hospital, Ankara, Turkey


Left
Right
External oblique aponeurosis
Rectus
Rectus
External oblique muscle
Internal oblique muscle
Fascia transversalis
Anterior superior iliac spine
Ilioinguinal & Iliohypogastric nerves
Peritoneal cavity
Femoral nerve
Transversus abdominis
Gluteal muscles
Iliac muscle
Psoas major

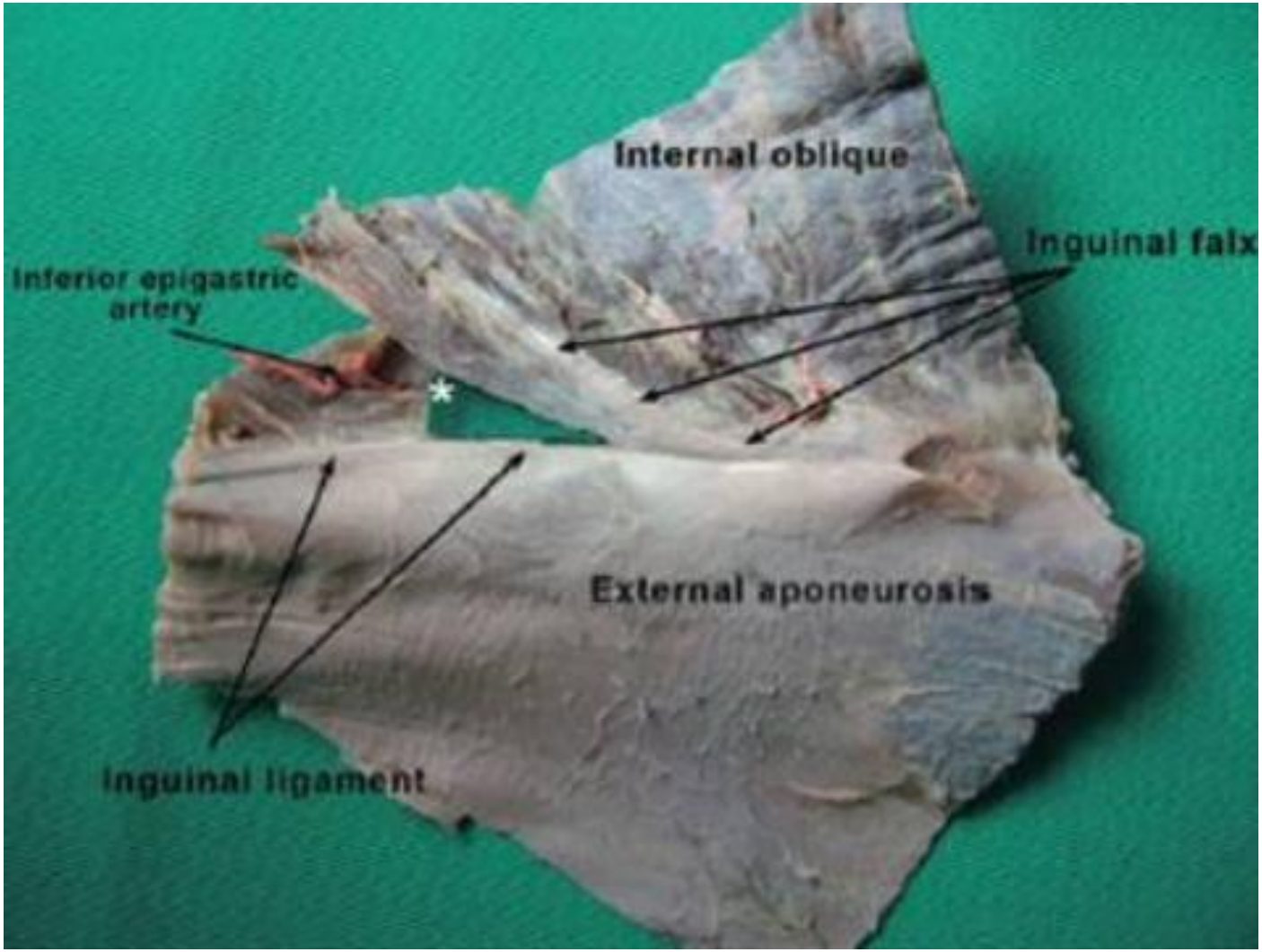

Left
Right
Peritoneum
Cranial

Falx inguinalis: a forgotten structure

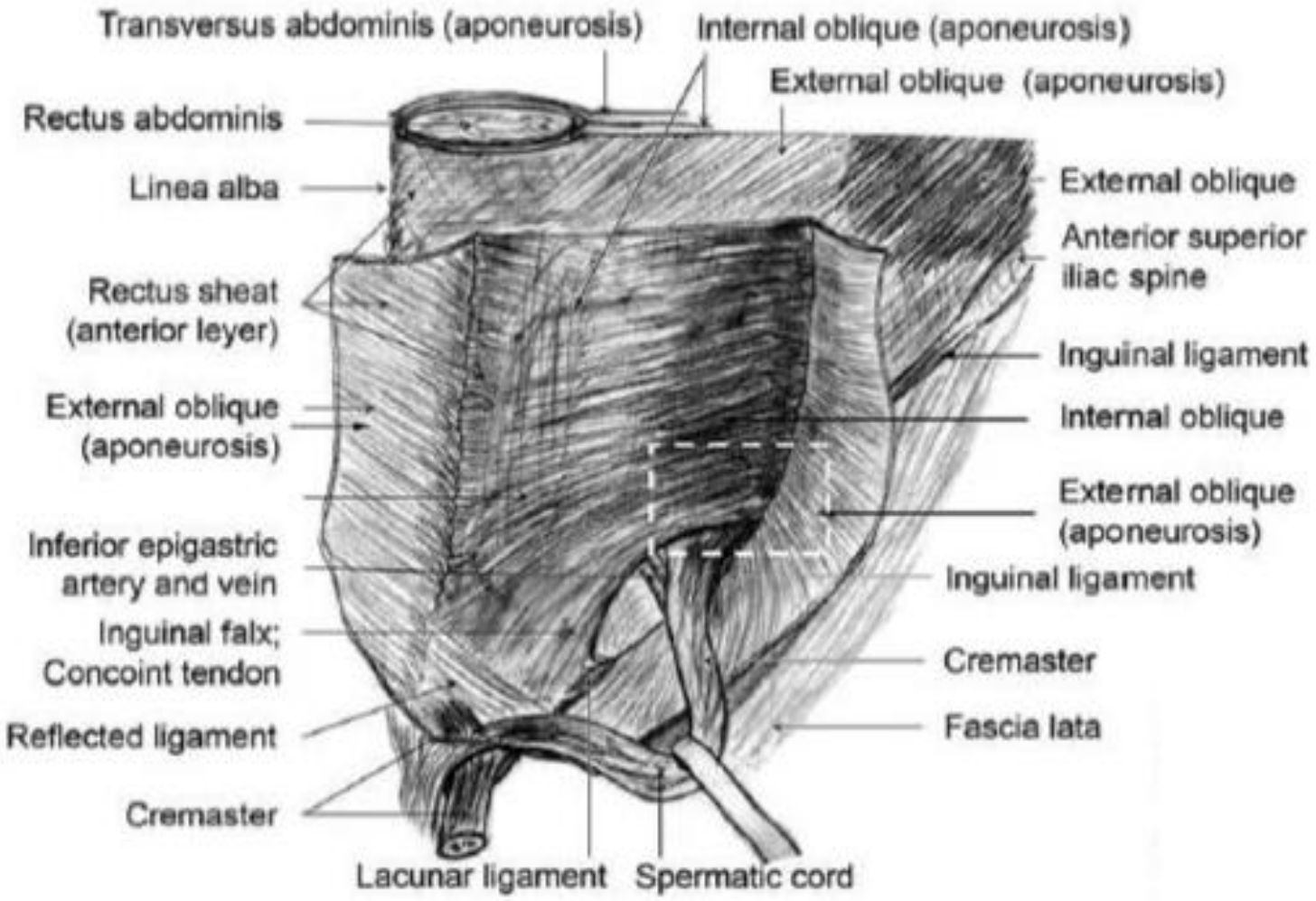
Tulin Sen,* MD
Celil Ugurlu,† MD
Hakan Kulacoglu,† MD, FACS
Alaittin Elhan,* PhD
*Ankara University School of Medicine, Department of Anatomy, and †Diskapi Yildirim Beyazit Teaching and Research Hospital, Department of Surgery, Ankara, Turkey



Falx inguinalis: a forgotten structure



Falx inguinalis: a forgotten structure



Acta Chir Belg, 2011, **111**, 000-000

A Very Nervous Inguinal Floor : Report of a Case

H. Kulacoglu[1,3], *T. Sen*[2], *I. Ozyaylali*[3], *A. Elhan*[2]

[1]Diskapi Yildirim Beyazit Teaching and Research Hospital, Department of Surgery ; [2]Ankara University School of Medicine, Department of Anatom7 ; [3]Ankara Hernia Center, Ankara, Turkey.

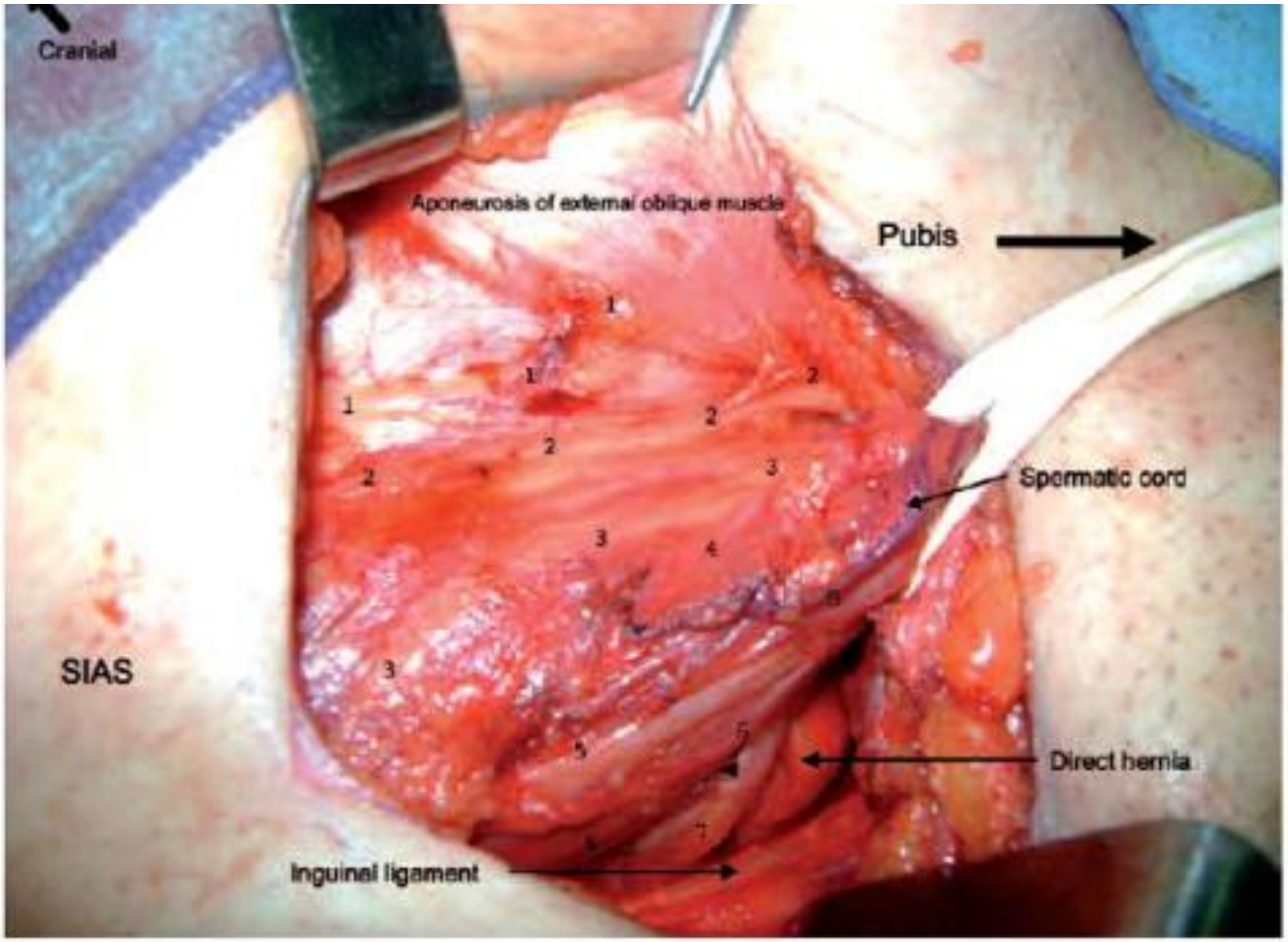


Fig. 1

The surgical anatomy during the operation. The nerve structures are identified as follow : 1. subcostal nerve (or iliohypogastric nerve branch), 2. iliohypogastric nerve, 3. ilioinguinal nerve branch, 4. ilioinguinal nerve branch, 5. ilioinguinal nerve (or genital branch of genitofemoral nerve), 6. ilioinguinal nerve branch (or genital branch of genitofemoral nerve), 7. genital branch of genitofemoral nerve.

Adequacy of Medical School Gross Anatomy Education as Perceived by Certain Postgraduate Residency Programs and Anatomy Course Directors

WAYNE W. COTTAM*

Department of Neurobiology and Anatomy, University of Utah Medical School, Salt Lake City, Utah

Clinical Anatomy 21:718–724 (2008)

MEDICAL EDUCATION

Are We Teaching Sufficient Anatomy at Medical School? The Opinions of Newly Qualified Doctors

J.E.F. FITZGERALD,[1,2*] M.J. WHITE,[3] S.W. TANG,[2] C.A. MAXWELL-ARMSTRONG,[2] AND D.K. JAMES[1]

[1]*Medical Education Unit, University of Nottingham Medical School, Queens Medical Centre, Nottingham, United Kingdom*

[2]*Department of Gastrointestinal Surgery, Nottingham University Hospital, Queens Medical Centre, Nottingham, United Kingdom*

[3]*University of Nottingham Medical School, Queens Medical Centre, Nottingham, United Kingdom*

Clinical Anatomy 21:334–338 (2008)

MEDICAL EDUCATION

Junior Doctors' Knowledge of Applied Clinical Anatomy

YURI GUPTA,* MIA MORGAN, ANNIKA SINGH, AND HAROLD ELLIS

[1]*Department of Anatomy, Cell and Human Biology, Guy's, King's and St Thomas's School of Biomedical Sciences, Guy's Campus, London Bridge, London, United Kingdom*

Clinical Anatomy 12:55–65 (1999)

Adequacy of Medical School Gross Anatomy Education as Perceived by Certain Postgraduate Residency Programs and Anatomy Course Directors

WAYNE W. COTTAM*

Department of Neurobiology and Anatomy, University of Utah Medical School, Salt Lake City, Utah

Chirurgia (2011) 106: 599-603
Nr. 5, Septembrie - Octombrie

A short postgraduate anatomy course may improve the junior surgical residents' anatomy knowledge for the nerves of the inguinal region

Z. Ergül[1], H. Kulaçoğlu[1], T. Sen[2], A.F. Esmer[2], M. Güller[1], G. Güneri[1], A. Elhan[2]

[1]Department of Surgery, Diskapi Yildirim Beyazit Teaching and Research Hospital, Ankara, Turkey
[2]Department of Anatomy, Ankara University Medical Faculty, Ankara, Turkey

Chirurgia (2011) 106: 599-603
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Z. Ergül[1], H. Kulaçoğlu[1], T. Sen[2], A.F. Esmer[2], M. Güller[1], G. Güneri[1], A. Elhan[2]

[1]Department of Surgery, Diskapi Yildirim Beyazit Teaching and Research Hospital, Ankara, Turkey
[2]Department of Anatomy, Ankara University Medical Faculty, Ankara, Turkey

Table 1. *Residents' nerve pointing rates as percent (%) before and after anatomy course*

	Before	After	p
Iliohypogastric nerve	96	100	ns
Ilioinguinal nerve	100	100	ns
Genital branch of genitofemoral nerve	88	84	ns

Table 2. *Nerve pointing time in seconds before and after anatomy course*

	Before	After	p
Iliohypogastric nerve	10.7 (±11.3)	5.2 (±6.1)	0.014
Ilioinguinal nerve	11.5 (±10.4)	8.1 (±9.8)	0.002
Genital branch of genitofemoral nerve	19.3 (±12.7)	15.2 (±11.4)	ns

Table 3. *Correct nerve identification rates as percent (%) before and after anatomy course*

	Before	After	p
Iliohypogastric nerve	79	96	0.08
Ilioinguinal nerve	72	92	0.07
Genital branch of genitofemoral nerve	39	52	ns

Table 4. *The percentages for correct nerve identification within 10 seconds before and after anatomy course*

	Before	After	p
Iliohypogastric nerve	60	88	0.03
Ilioinguinal nerve	36	76	0.005
Genital branch of genitofemoral nerve	8	32	0.037

Better understanding of anatomy…

- Correct classification of the hernias
- Better and more durable repair
- Less intraoperative and postoperative complications
- Lower recurrence rate
- Less postoperative chronic pain

Whoever learns anatomy only from books should operate on books only

Moshe Schein

Aphorisms & Quotations for the Surgeon