

10-1-2013

Abdominal wall blocks

Christopher Arndt

Follow this and additional works at: https://digitalrepository.unm.edu/anesthesiology_pubs

Recommended Citation

Arndt, Christopher. "Abdominal wall blocks." (2013). https://digitalrepository.unm.edu/anesthesiology_pubs/15

This Presentation is brought to you for free and open access by the Anesthesiology at UNM Digital Repository. It has been accepted for inclusion in Anesthesiology Research and Scholarship by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.

Abdominal Wall Blocks

Christopher Arndt, MD

Associate Professor

Medical Director, Outpatient Surgery Center

University of New Mexico

Objectives

- Rectus sheath & TAP blocks
- Evidence
- Technique

Rectus Sheath

Background

- First described by Schleich in 1899 to produce relaxation of the anterior abdominal wall
- In 1966 Ferguson suggested a rectus sheath block to provide analgesia for umbilical hernia repair in children
- Ultrasound guidance described by Willschke in 2006

Rectus sheath: Indications

- Pyloromyotomy
- Umbilical hernia
- Epigastric hernia repair
- Midline incisions

Original Investigation

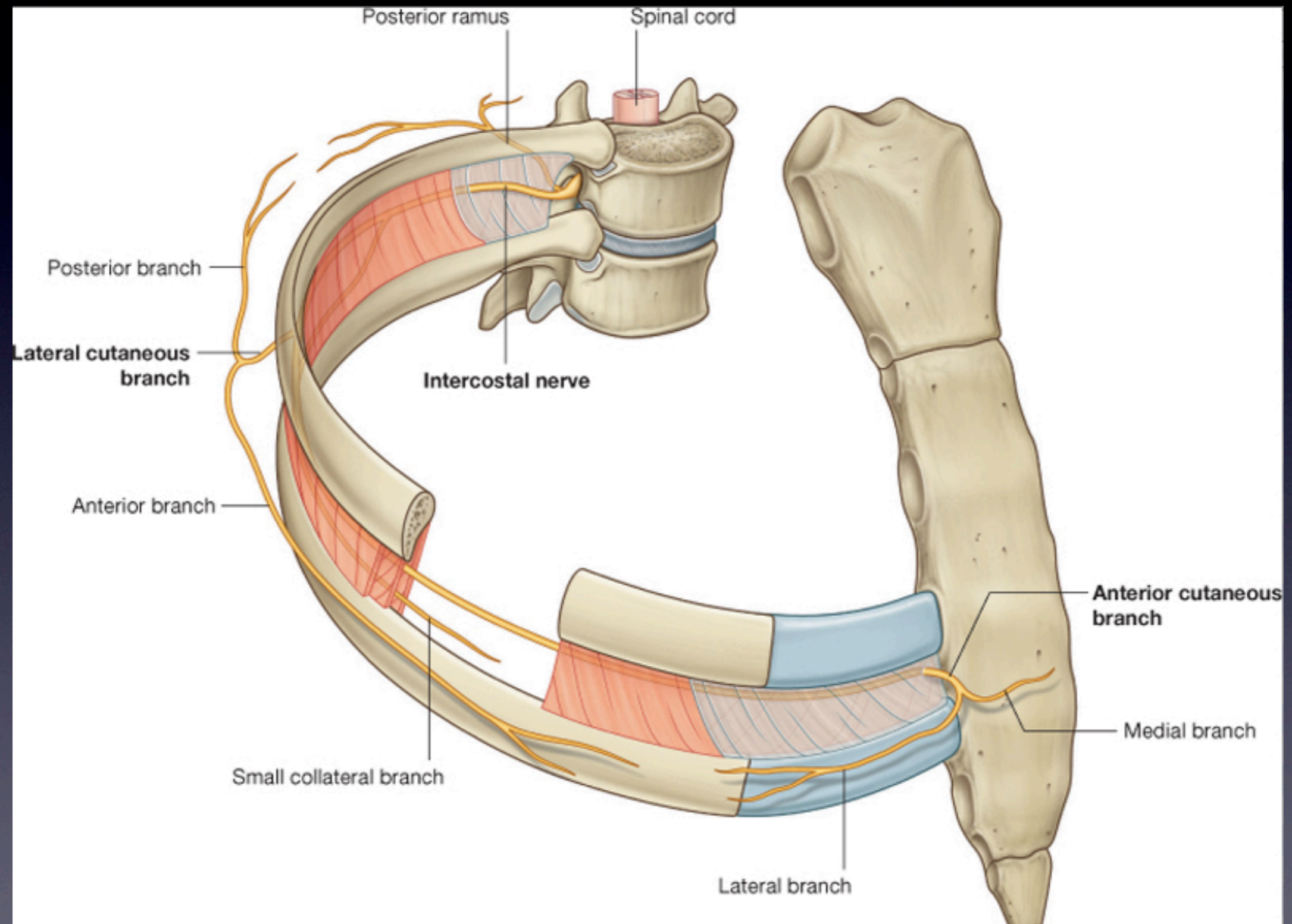
Ultrasonography-Guided Bilateral Rectus Sheath Block vs Local Anesthetic Infiltration After Pediatric Umbilical Hernia Repair

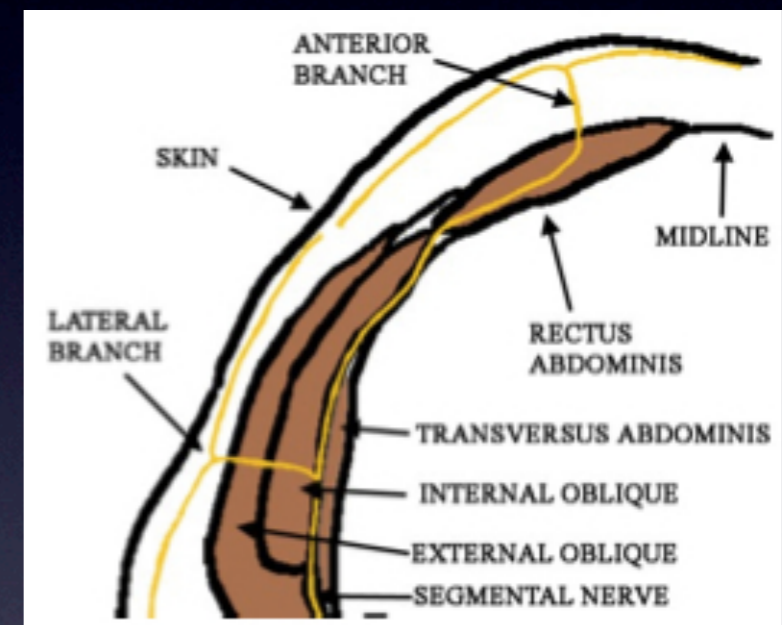
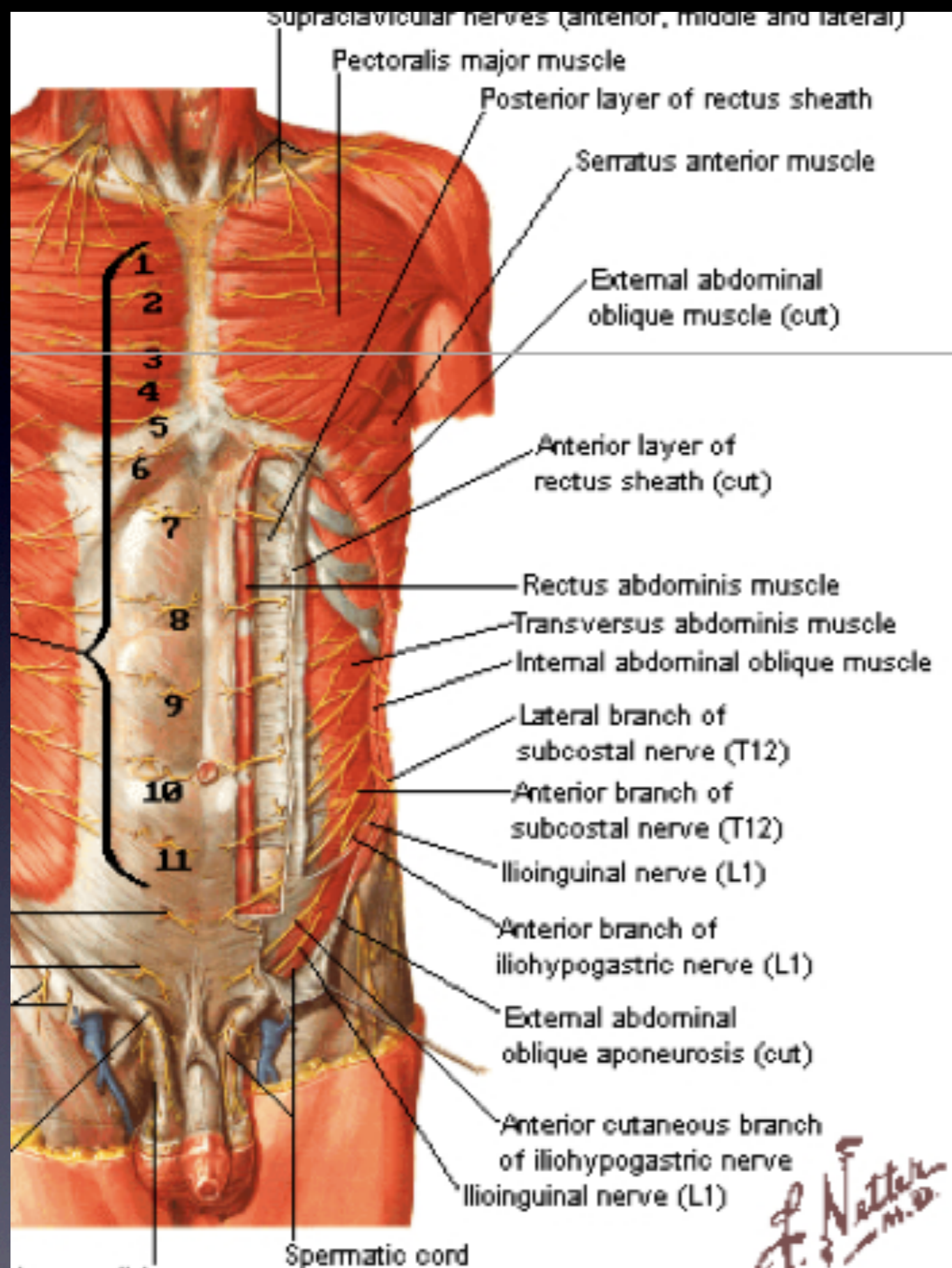
A Prospective Randomized Clinical Trial

R. Scott Dingeman, MD; Lindsay M. Barus, MPH; Hyun Kee Chung, MD; David J. Clendenin, MD; Christopher S. Lee, MD; Sarah Tracy, BA; Victor M. Johnson, MA; Kate V. Dennett, BA; David Zurakowski, PhD; Catherine Chen, MD, MPH

JAMA Surg. 2013;148(8):707-713. doi:10.1001/jamasurg.2013.1442
Published online June 12, 2013.

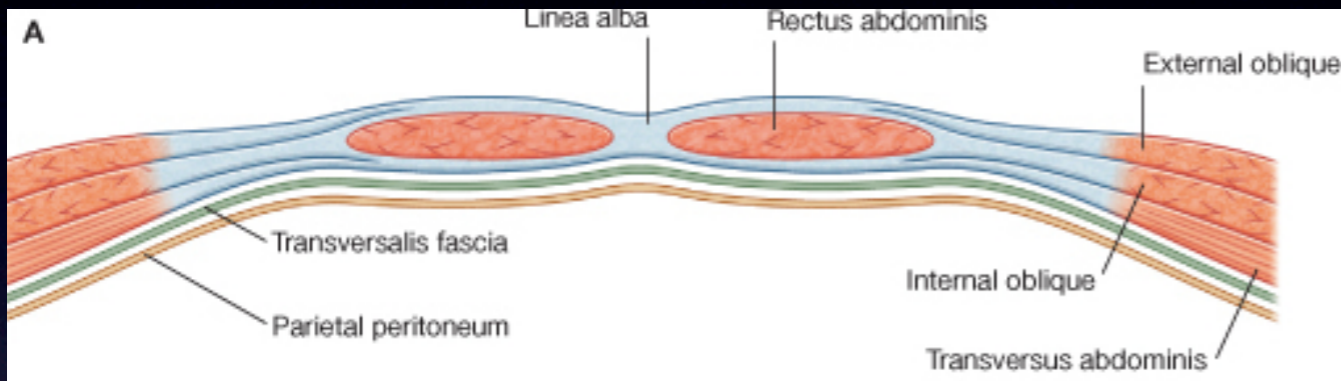
Anatomy of Spinal Nerve



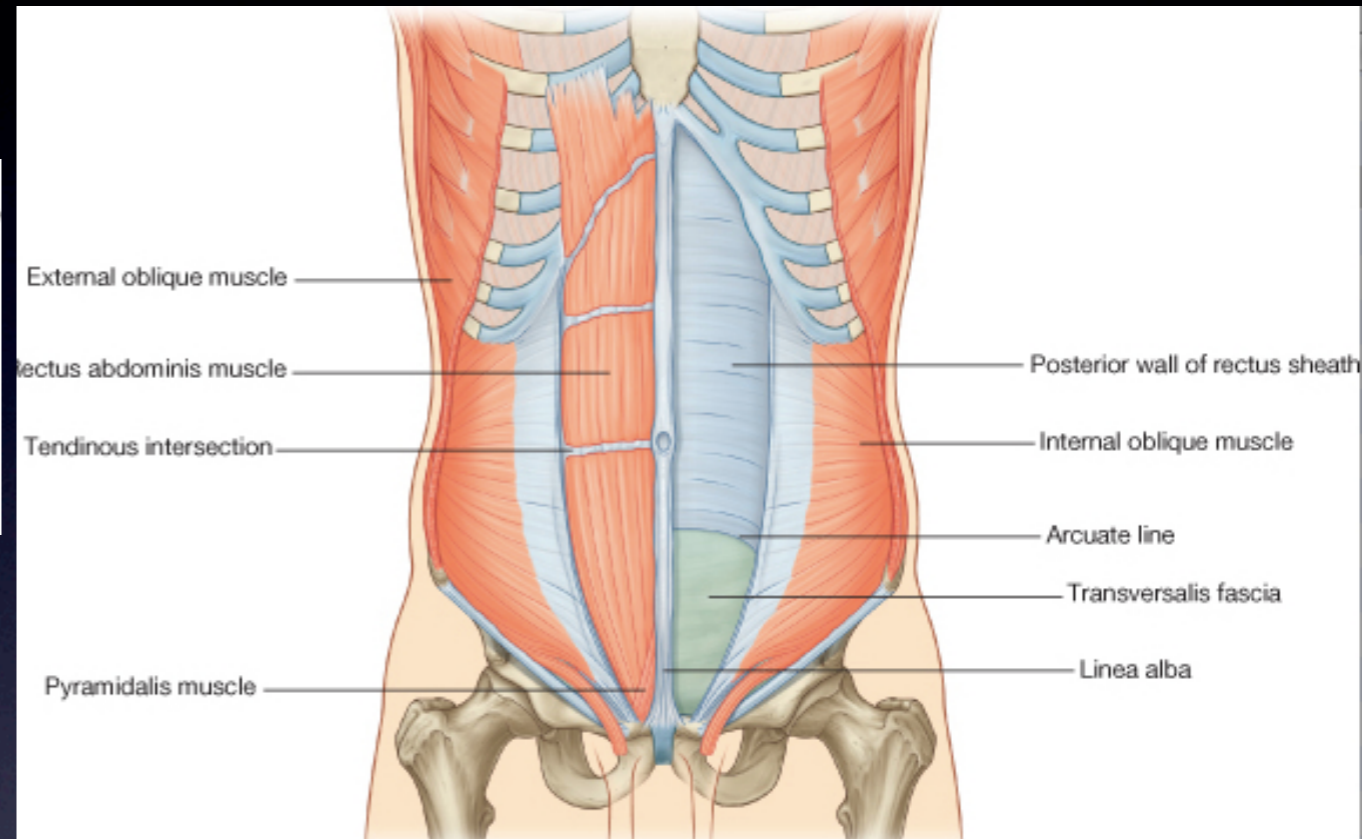
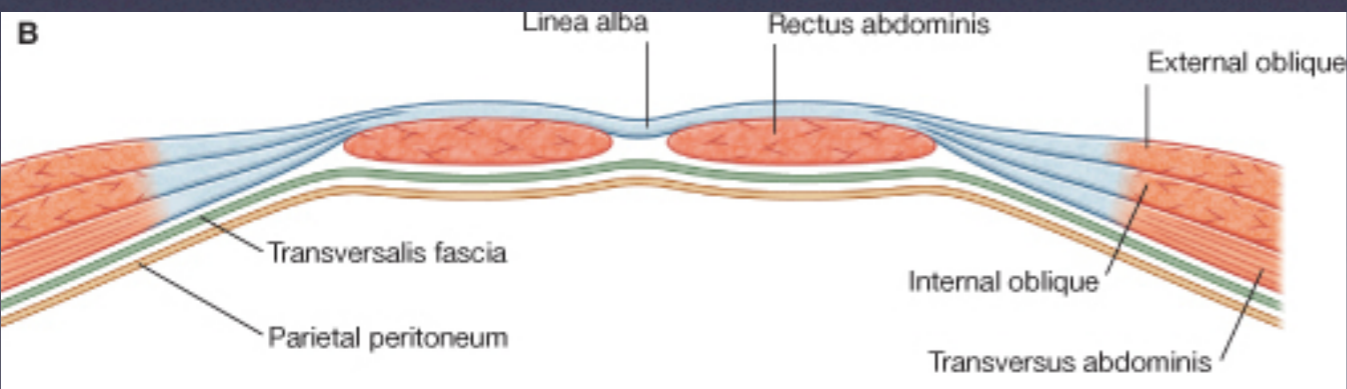


Formation of Rectus Sheath

Rectus Sheath
Cross Section Above Arcuate Line



Rectus Sheath
Cross Section Below Arcuate Line



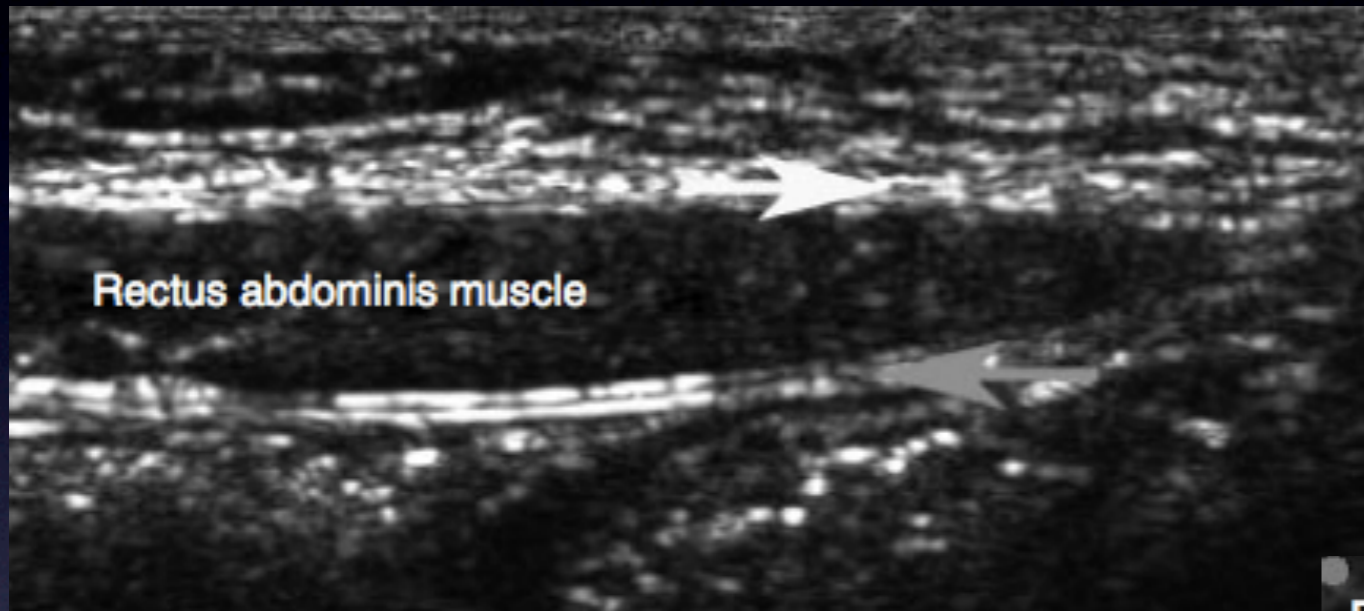
3 Tendinous
Intersections anteriorly

Rectus Sheath Block Technique

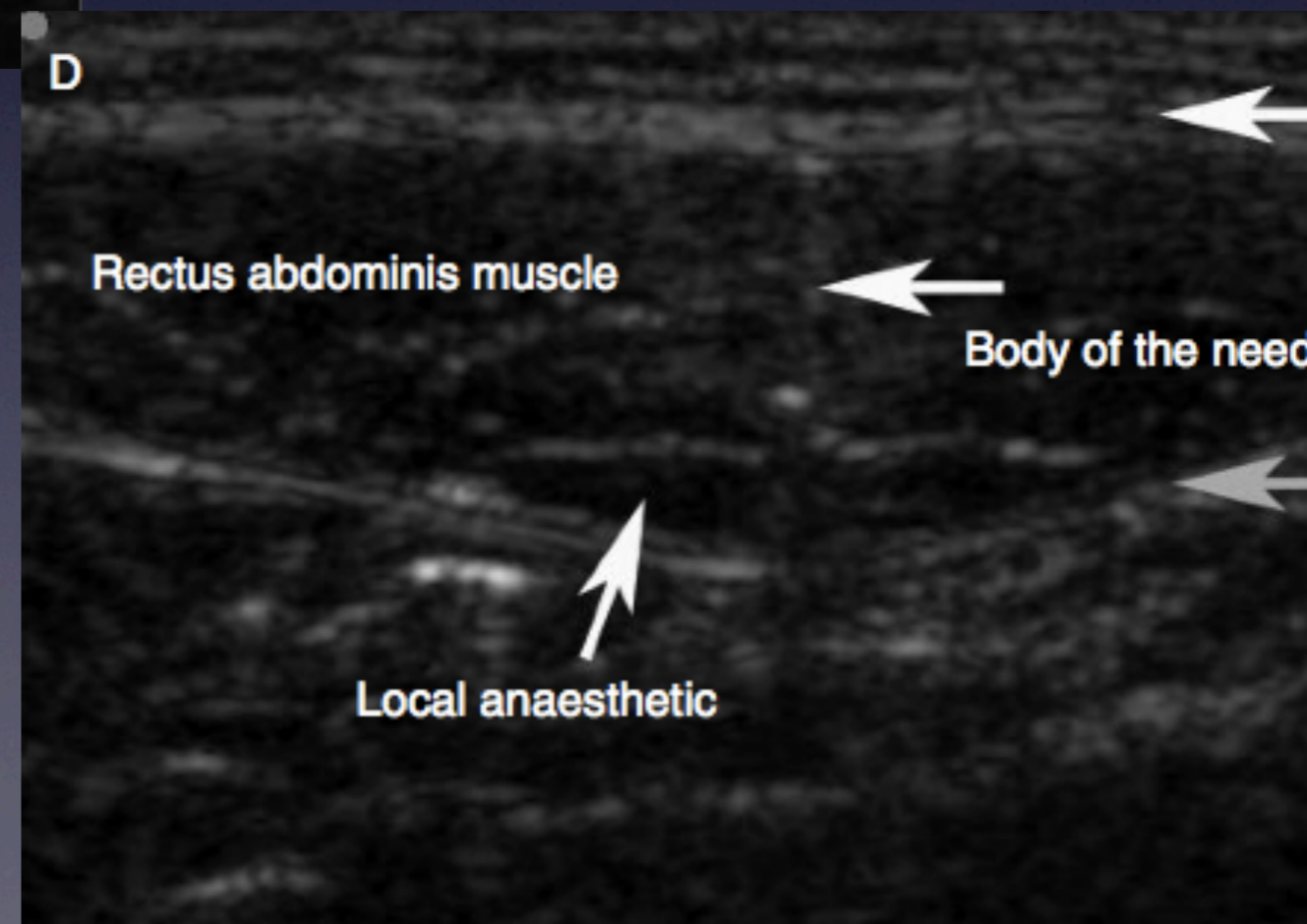
- Before ultrasound, done as a blind procedure using anatomical landmarks and tactile sensation
- With ultrasound the procedure is very simple and visual

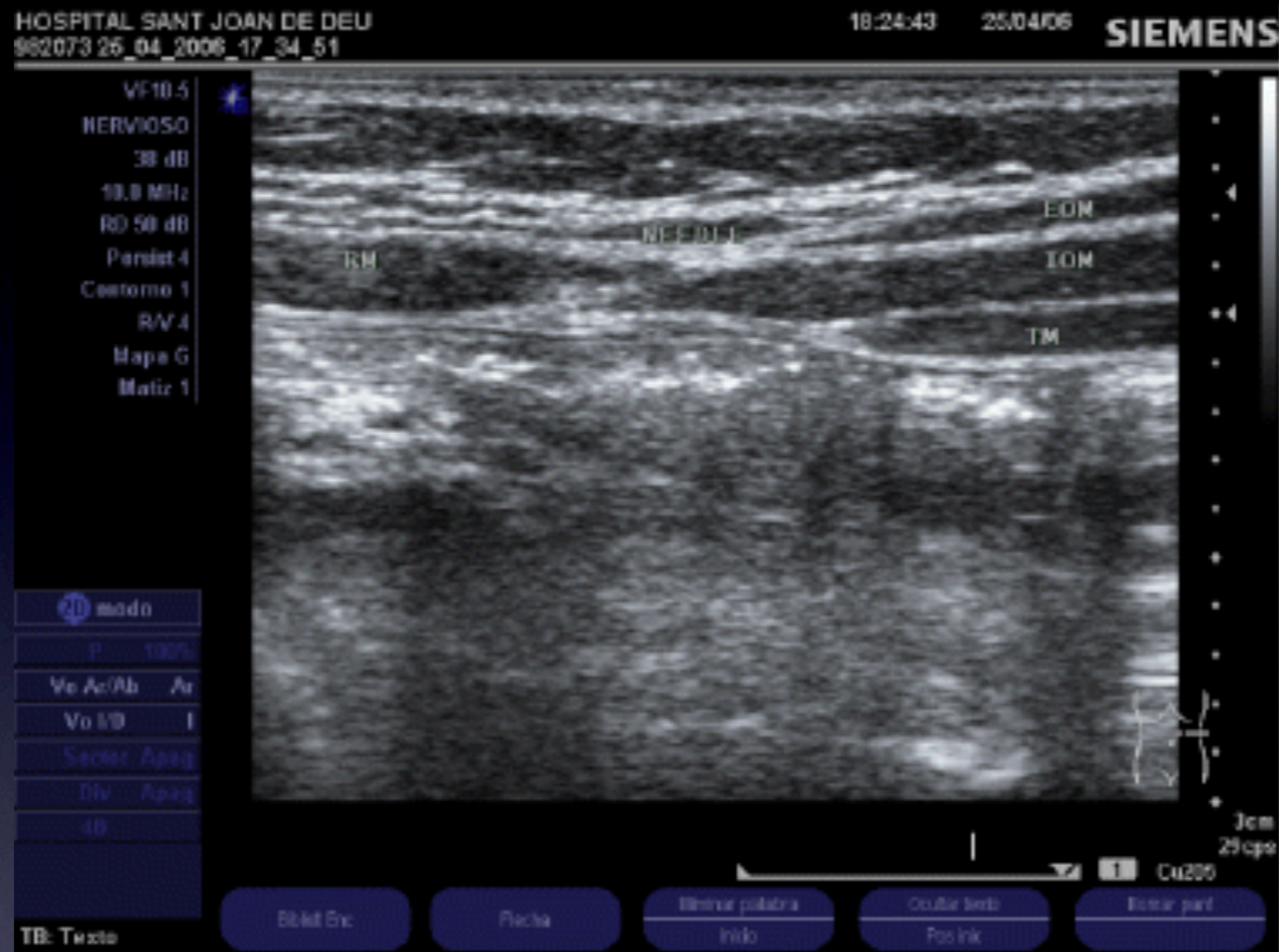
Ultrasonography-guided rectus sheath block in paediatric anaesthesia—a new approach to an old technique[†]

H. Willschke¹ *, A. Bösenberg², P. Marhofer¹, S. Johnston², S. C. Kettner¹,
O. Wanzel³ and S. Kapral¹



Volume of LA
0.1 ml/kg per side





Ultrasound-guided umbilical nerve block in children: a brief description of a new approach

Pediatric Anesthesia
pages 44-50, 6 JUL 2006

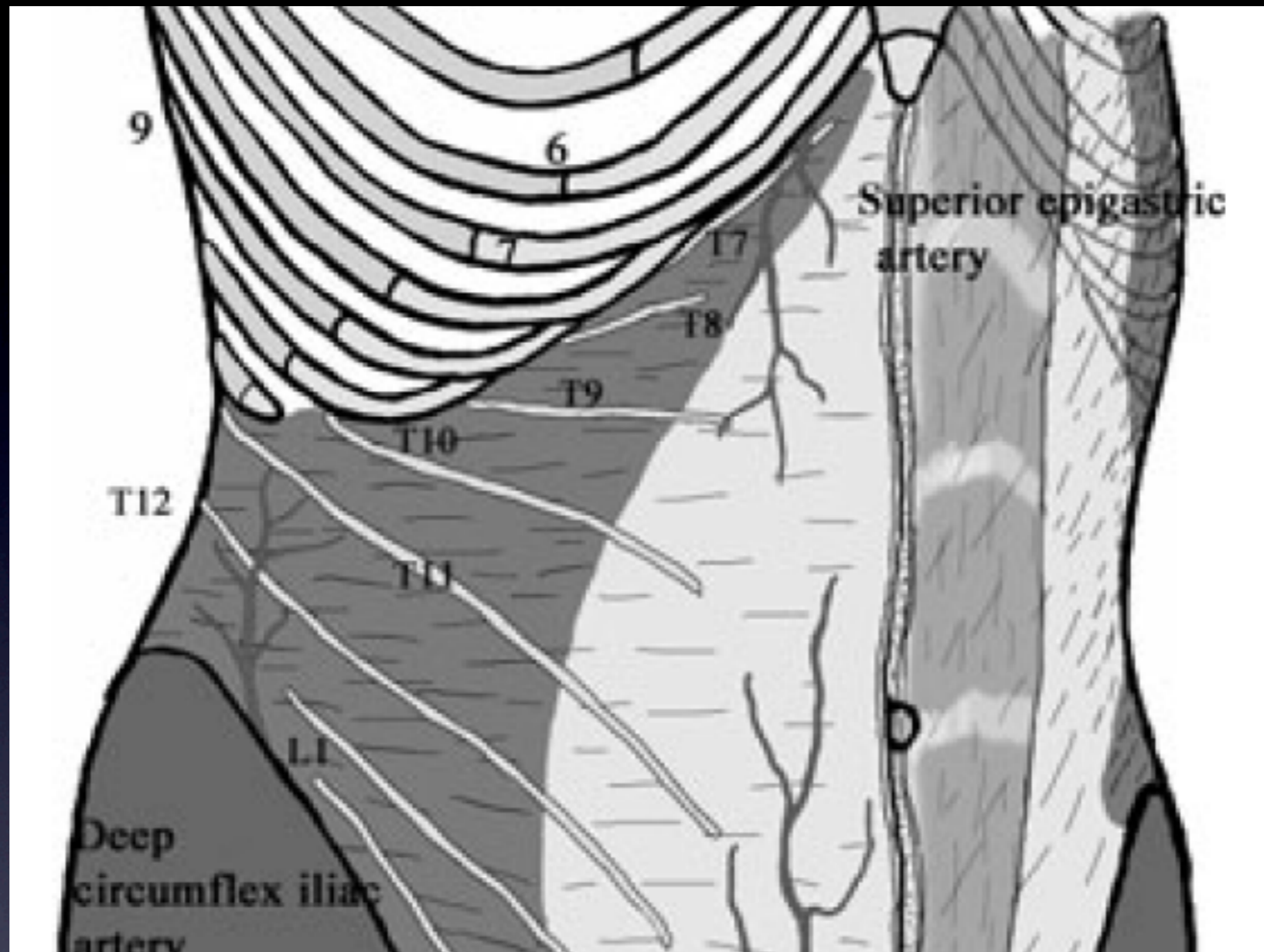
TAP=Transversus
Abdominus Plane

Background

- Rafi described blind technique in 2001
- McDonnell described spread 2004
- O'Donnell coined term "TAP Block" 2006
- Hebbard described US techniques 2007 and 2008

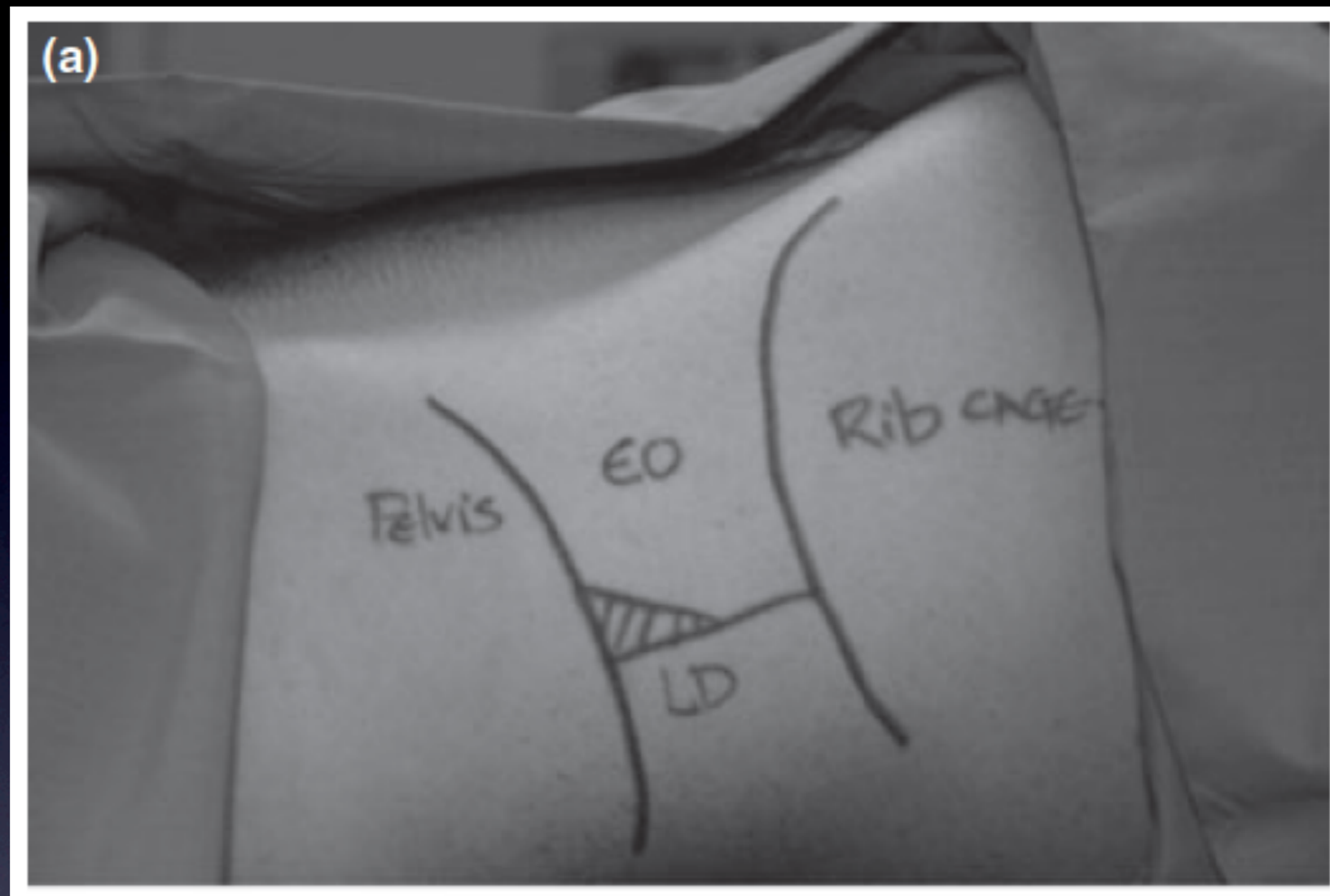
TAP: Indications

- Appendectomy
- Herniorrhaphy
- Laparotomy
- Nissen fundoplication
- Pyloromyotomy
- Colostomy
- Gastrostomy
- Major abdominal wall surgery



Nerve distribution

Professor P. Hebbard.



Triangle of Petit

Pediatric Anesthesia

Pediatric Anesthesia ISSN 1155-5645

REVIEW ARTICLE

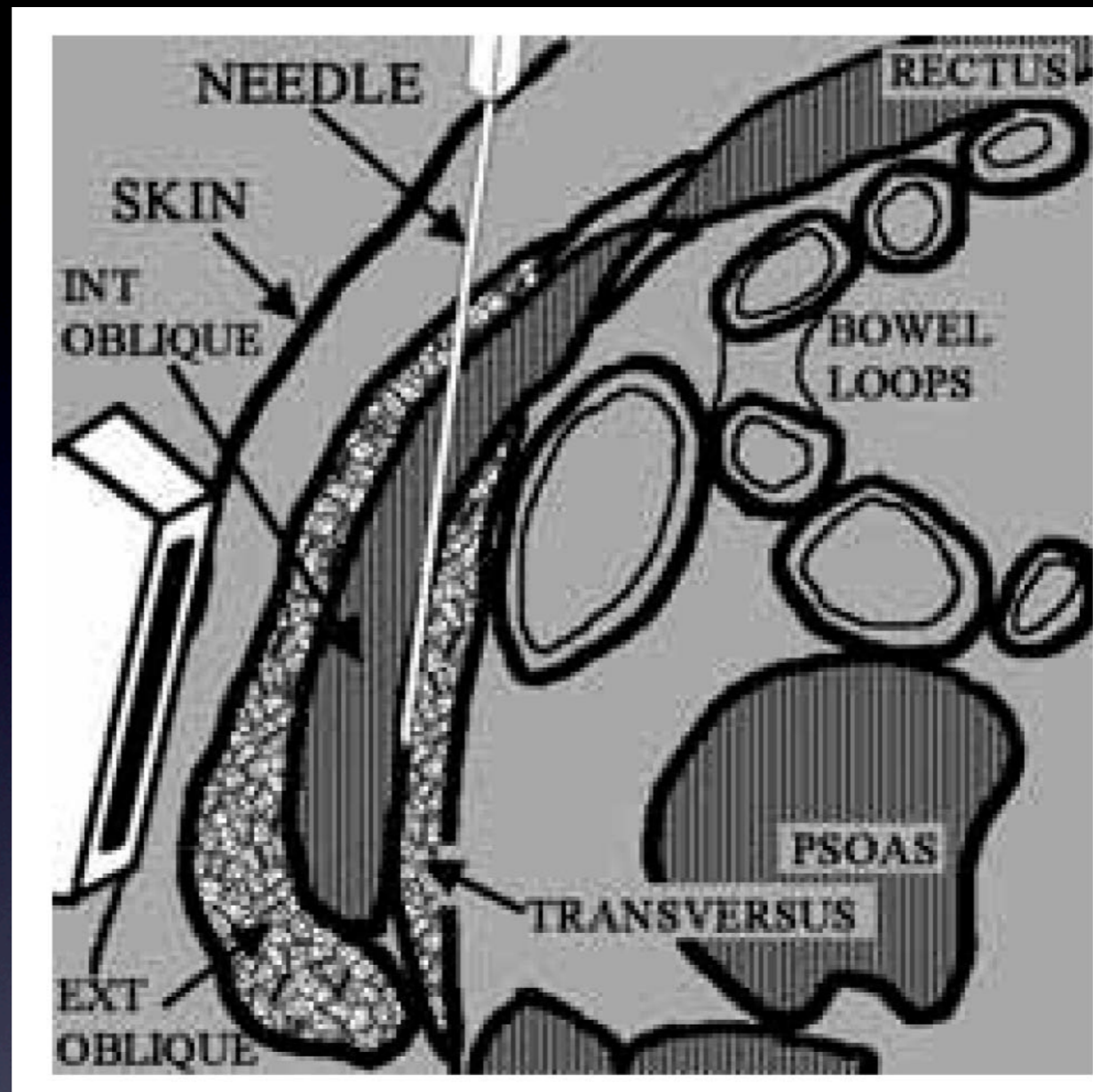
Clinical implications of the transversus abdominis plane block in pediatric anesthesia

Christine L. Mai^{1,2}, Mark J. Young¹ & Sadeq A. Quraishi^{1,2}



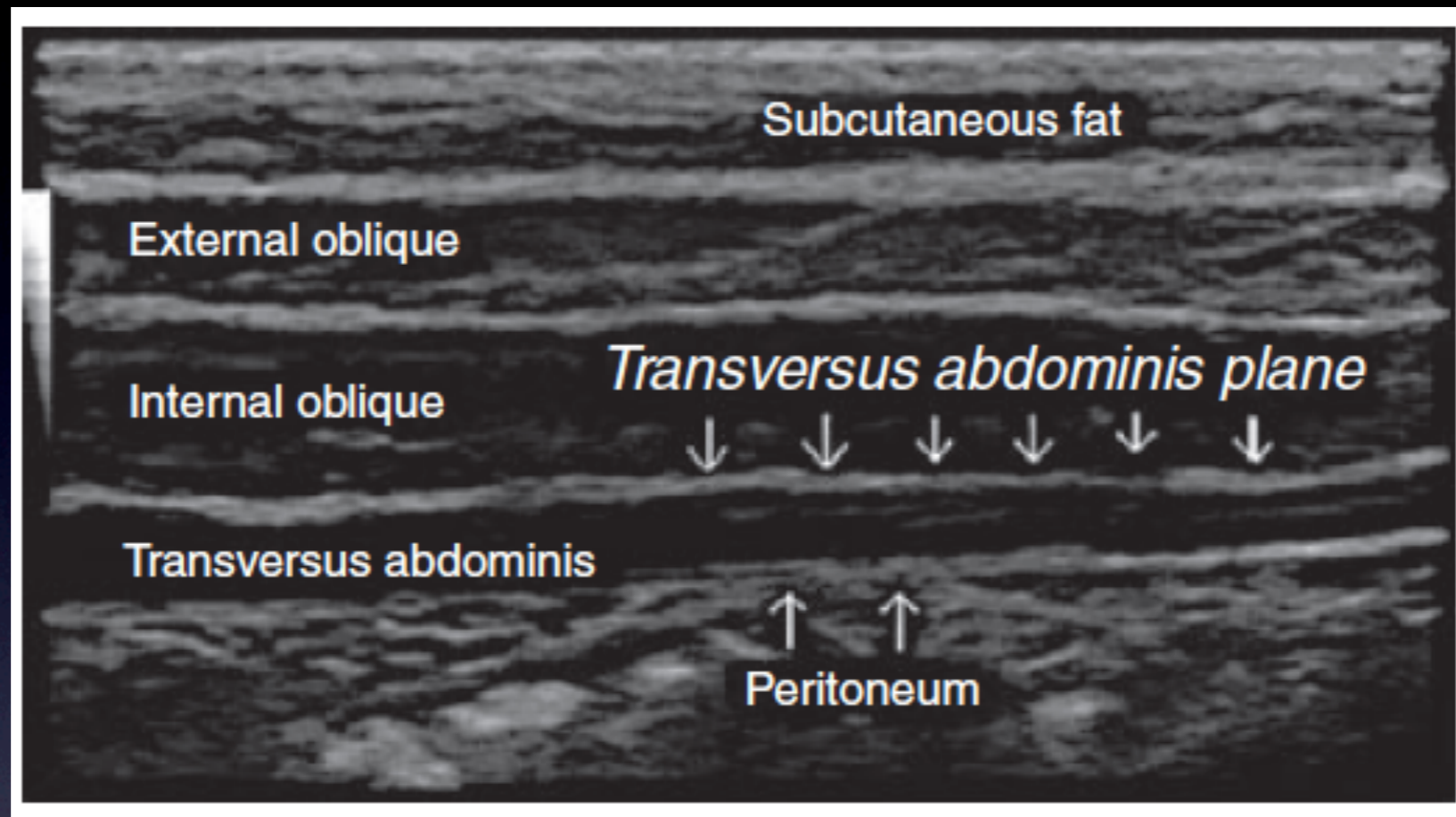
Hebbard's posterier TAP block approach

Anaesthesia & Intensive Care, 2007, Vol. 35 Issue 4, p616-617



Stylized needle diagram

Anaesthesia & Intensive Care, 2007, Vol. 35 Issue 4, p616-617



Abdominal wall layers

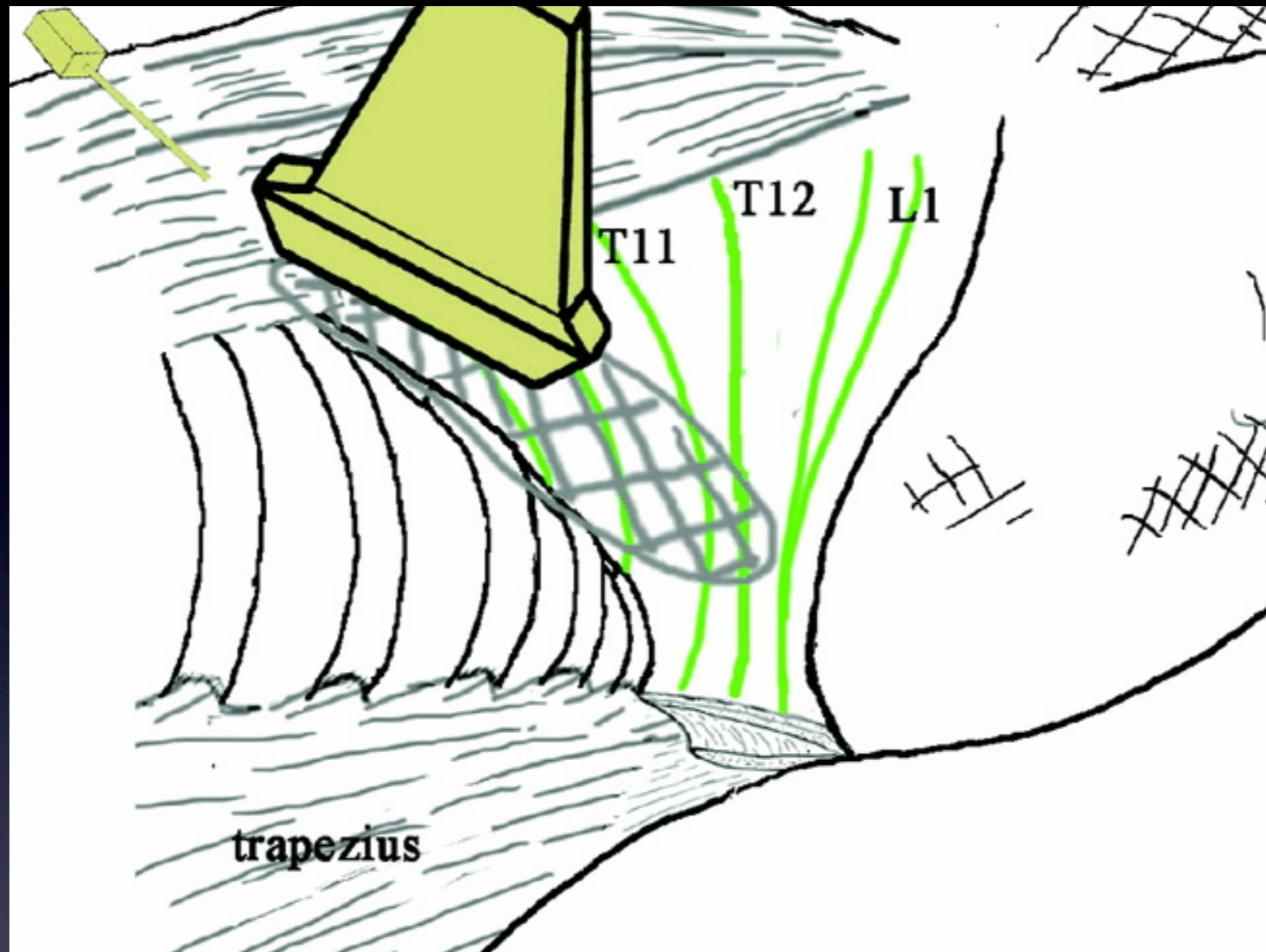
Pediatric Anesthesia

Pediatric Anesthesia ISSN 1155-5645

REVIEW ARTICLE

Clinical implications of the transversus abdominis plane block in pediatric anesthesia

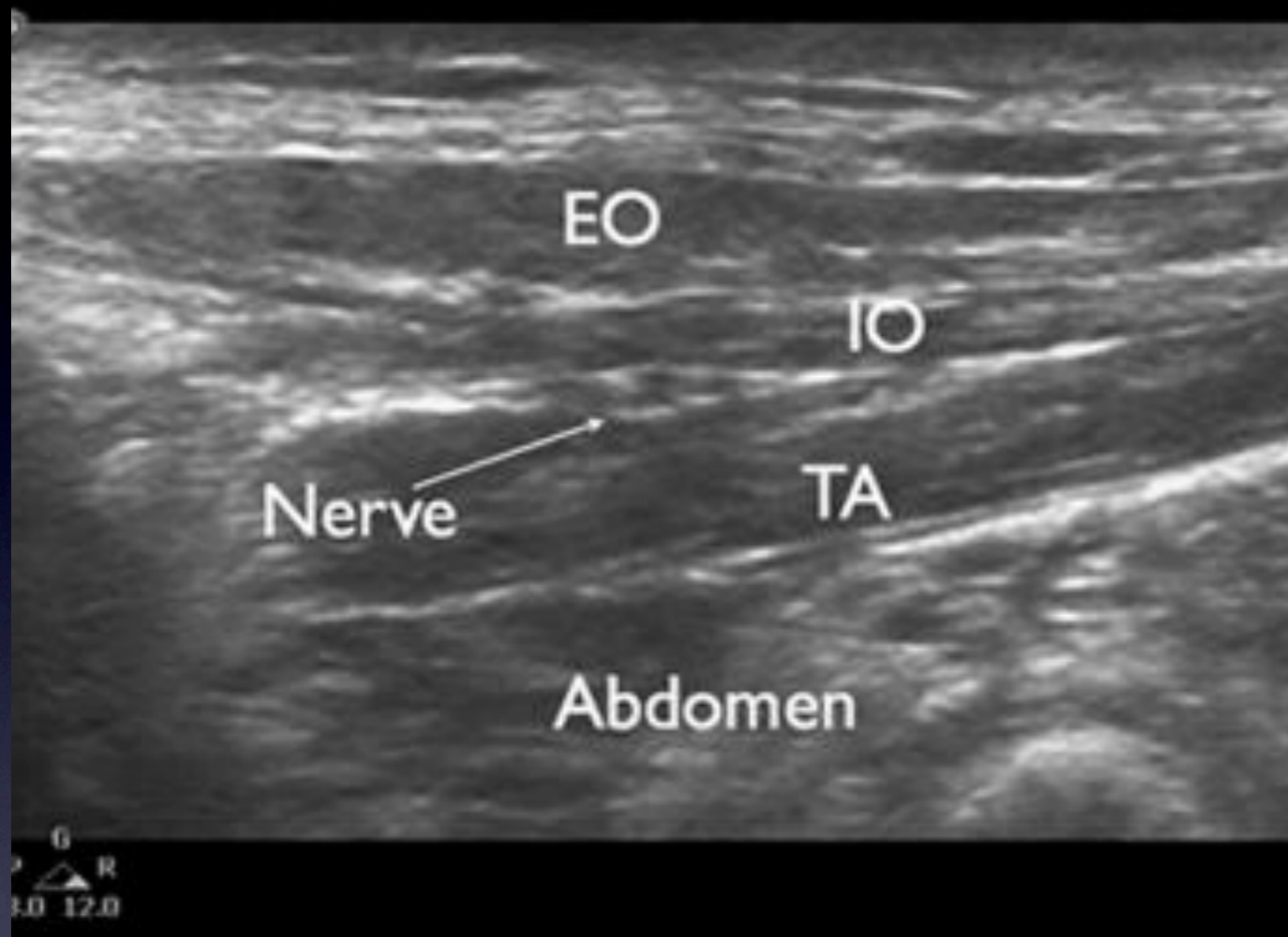
Christine L. Mai^{1,2}, Mark J. Young¹ & Sadeq A. Quraishi^{1,2}



Hebbard's oblique subcostal TAP approach

Anesthesia & Analgesia

Issue: Volume 106(2), February 2008, pp 674-675



Ilioinguinal nerve

International Anesthesiology Clinics
Issue: Volume 50(1), Winter 2012, p 74–92

In summary

- Ultrasound can make blocks easy to perform
- Blocks superior to narcotics
- Neuraxial superior to abdominal blocks
- Match block site to surgical site