

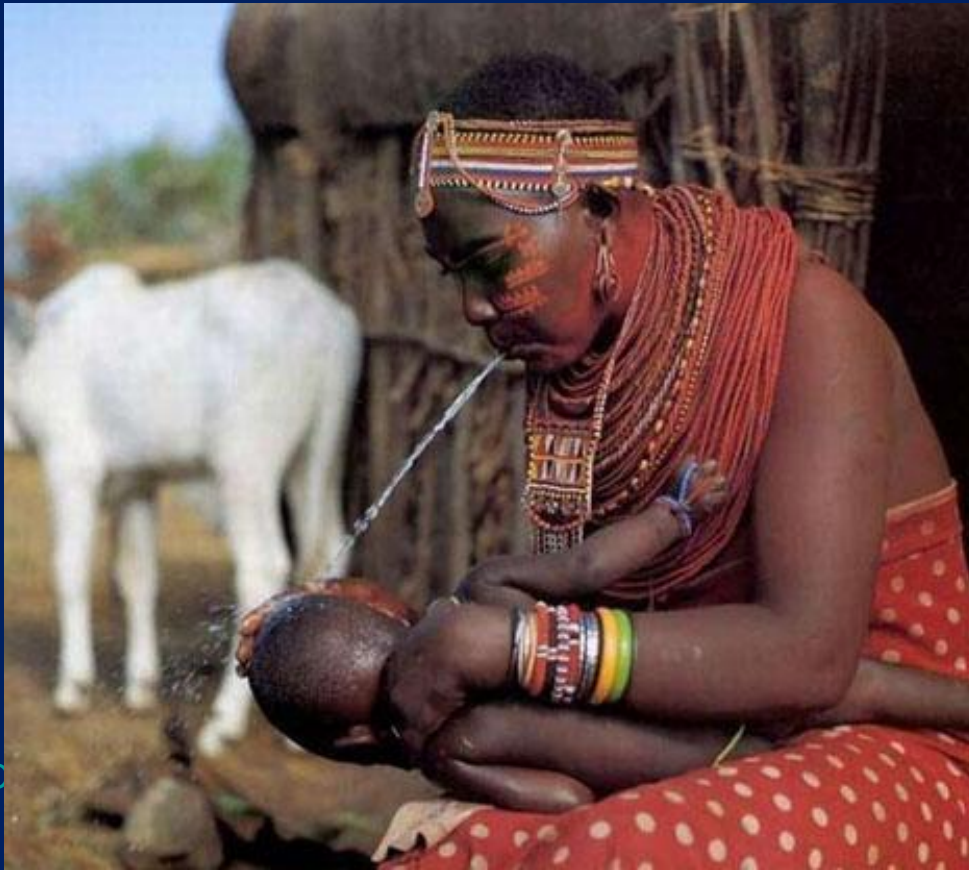
Girişimsel ve Diğer Kullanım Alanları

Doç. Dr. Sadık GİRİŞGİN

Diğer Kullanım Alanları



Yeni Kullanım Alanları



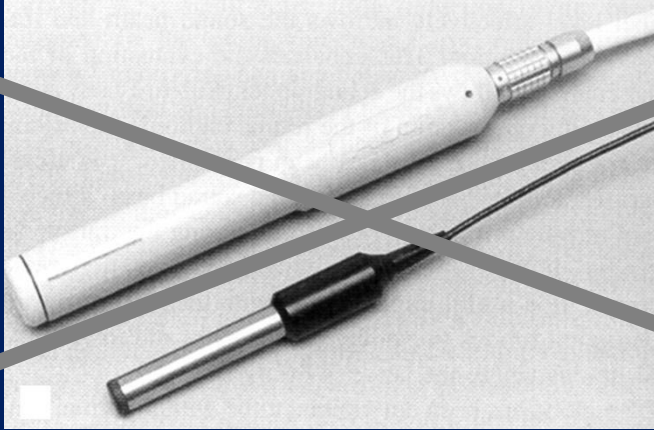
Standartın dışında kullanım



Girişim ve Diğer Kullanım Alanları

- Göz
- Havayolu
- Perikardiyosentez
- Parasentez
- Suprapubik aspirasyon
- Derin ven trombozu
- Artrosentez
- Abse - Selülit
- Yabancı cisim
- Santral venöz kateter
- Kot - sternum kırıkları

Göz ile ilgili...



- Linear, 10 mHz



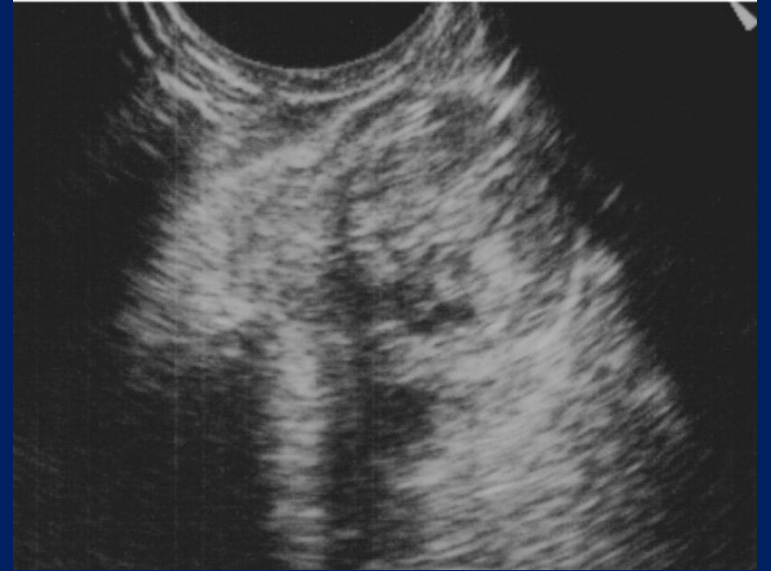
Göz ile ilgili



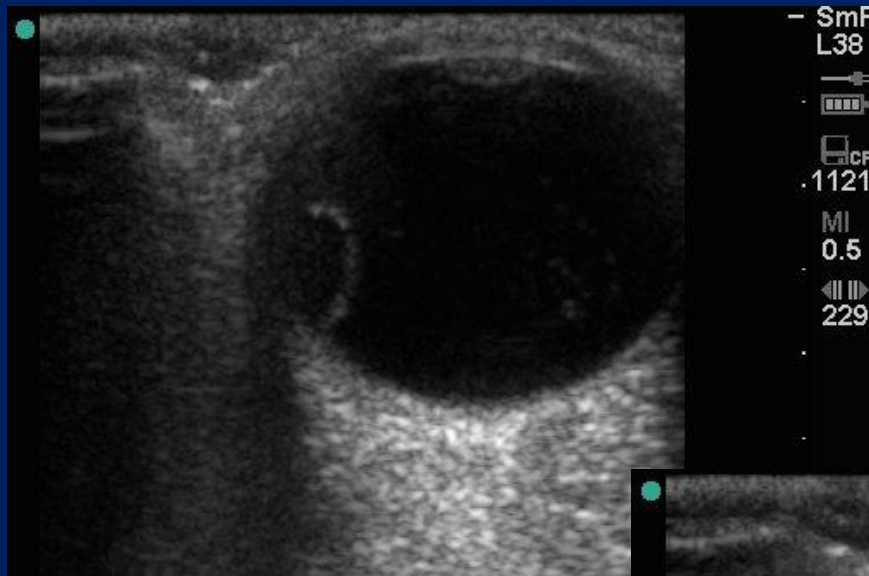
- 7.5 - 10 MHz prob
- Kapalı göz kapağı üzerine bol jel
- Göz üzerine basılmayacak
- Olgular
 - Glob penetrasyonu
 - Retinal dekolman
 - Lens çıkığı
 - Retrobulbar hematom



Göz travması



Gözde USG: retinal dekolman



Gözde USG: retinal dekolman



Gözde USG: retrobulbar hematom



Intrakraniyal basınç yüksek mi?

Elevated Intracranial Pressure Detected by Bedside Emergency Ultrasonography of the Optic Nerve Sheath

Michael Blaivas, MD, RDMS, Daniel Theodoro, MD, RDMS, Paul R. Sierzenski, MD, RDMS

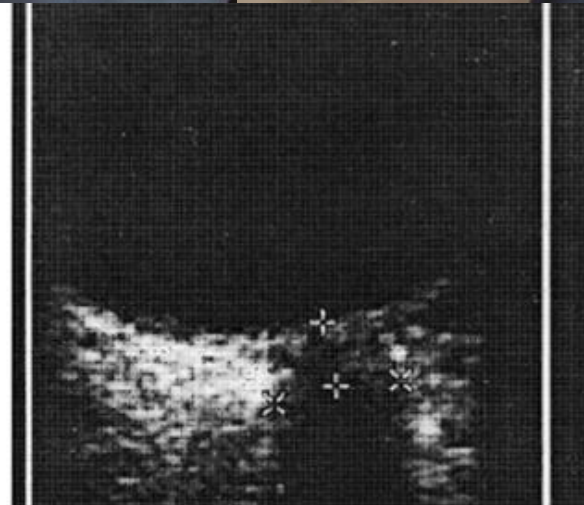
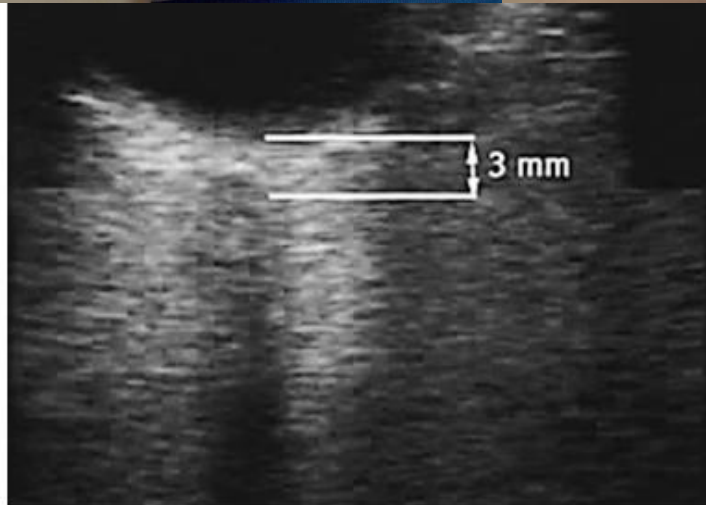
Abstract

Patients with altered level of consciousness may be suffering from elevated intracranial pressure (EICP) from a variety of causes. A rapid, portable, and noninvasive means of detecting EICP is desirable when conventional imaging methods are unavailable. **Objectives:** The hypothesis of this study was that ultrasound (US) measurement of the optic nerve sheath diameter (ONSD) could accurately predict the presence of EICP. **Methods:** The authors per-

was calculated and his or her head CT scans were evaluated for signs of EICP. Student's t-test was used to compare ONSDs in the normal and EICP groups. Sensitivity, specificity, and positive and negative predictive values were calculated. **Results:** Thirty-five patients were enrolled; 14 had CT results consistent with EICP. All cases of CT-determined EICP were correctly predicted by ONSD over 5 mm on US. One patient with ONSD of 5.7 mm in one eye and 3.7 mm

Oftalmolojik





The role of optic nerve ultrasonography in the diagnosis of elevated intracranial pressure

Abdullah Sadik Girisgin, Erdal Kalkan, Sedat Kocak, Basar Cander, Mehmet Gul, Mustafa Semiz

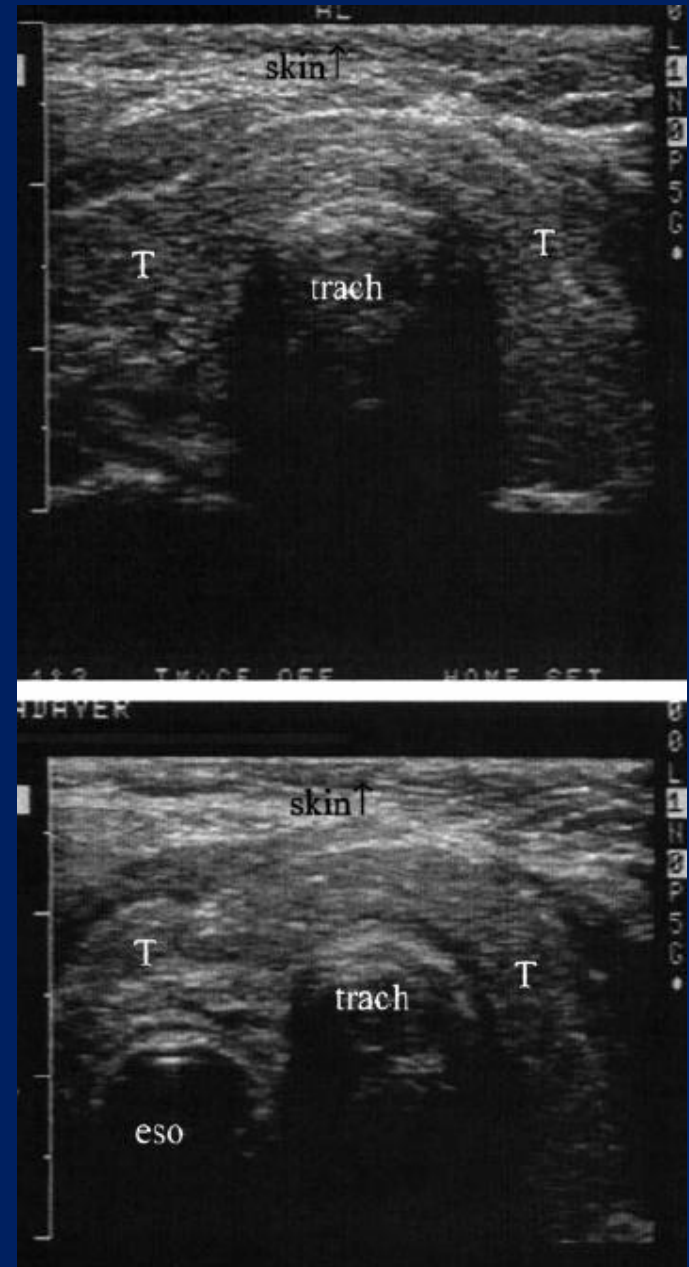
Emerg Med J 2007;**24**:251–254. doi: 10.1136/emj.2006.040931

Objective: To evaluate the convenience and utility of optic nerve ultrasonography (ONUS) in the evaluation of emergency patients with elevated intracranial pressure (EICP) due to traumatic or non-traumatic causes.

Methods: This study was conducted between May 2005 and December 2005 in the emergency department of

Entübasyon esnasında...

- Trakeaya bakmak



Pilot Study to Evaluate the Accuracy of Ultrasonography in Confirming Endotracheal Tube Placement

Ira L. Werner, MD, RDMS

Les E. Smith, MD

Erica R. Goldstein, MD

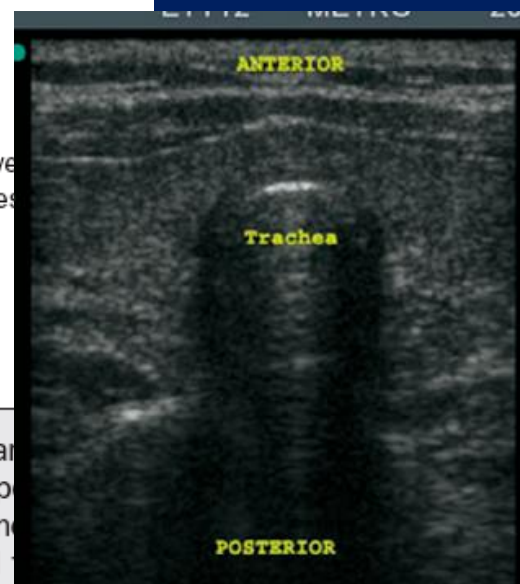
Robert A. Jones, DO, RDMS

K. Cydulka, MD, MS

From the Department of Emergency Medicine, MetroHealth Medical Center/Cleveland Foundation (Werner, Goldstein, Jones, Cydulka), and the Department of Anesthesiology, MetroHealth Medical Center (Smith), Cleveland, OH.

Study objective: Visualization of the vocal cords and end-tidal capnography are the usual standards in confirming endotracheal tube placement. Vocal cord visualization is, however, not always possible and capnography is not 100% reliable and requires ventilation of the lungs to confirm placement. The goal of this study is to determine the accuracy of ultrasonography for detecting endotracheal tube placement into the trachea and esophagus in real time.

Methods: This was a prospective, randomized, controlled study. Eligible patients were adults undergoing elective surgery requiring intubation. Exclusion criteria were a history of difficult intubation, abnormal airway anatomy, aspiration risk factors, and esophageal disease. Thirty-two patients were enrolled. After induction of anesthesia and neuromuscular blockade, the anesthesiologist placed the endotracheal tube in the trachea and esophagus in random order with direct laryngoscopy. During the intubations, a high-frequency, linear transducer was placed transversely on the neck at the suprasternal notch. Two emergency physicians, blinded to the



Trakea 14/14
Özafagus 19/19

Entübasyon sonrasında...

- Akciğere bakmak

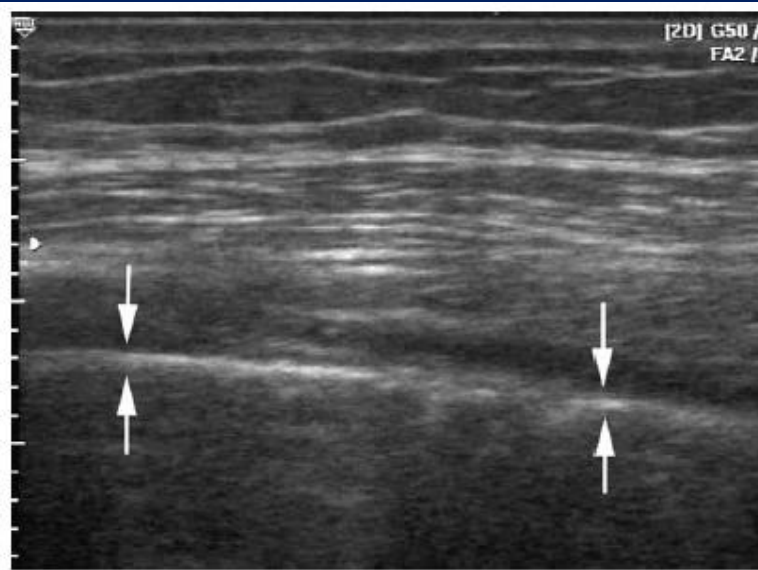


Figure 2. The bright interfaces of the parietal and visceral pleura are seen (arrows).

presence on both sides of the chest was assumed to sig-

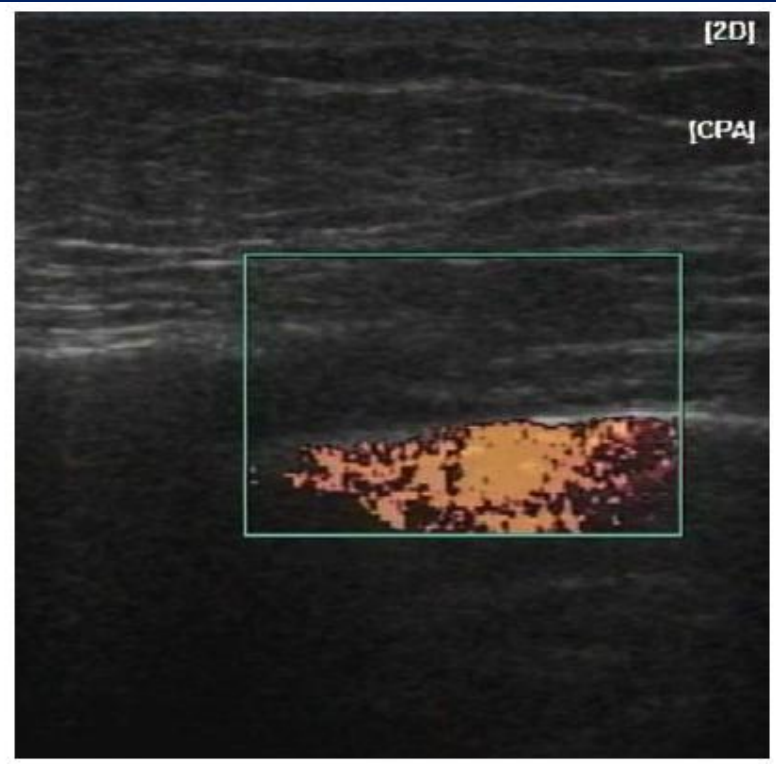
Confirmation of Endotracheal Tube Placement after Intubation Using the Ultrasound Sliding Lung Sign

Blake Weaver, DO, Matthew Lyon, MD, RDMS, Michael Blaivas, MD, RDMS

Abstract

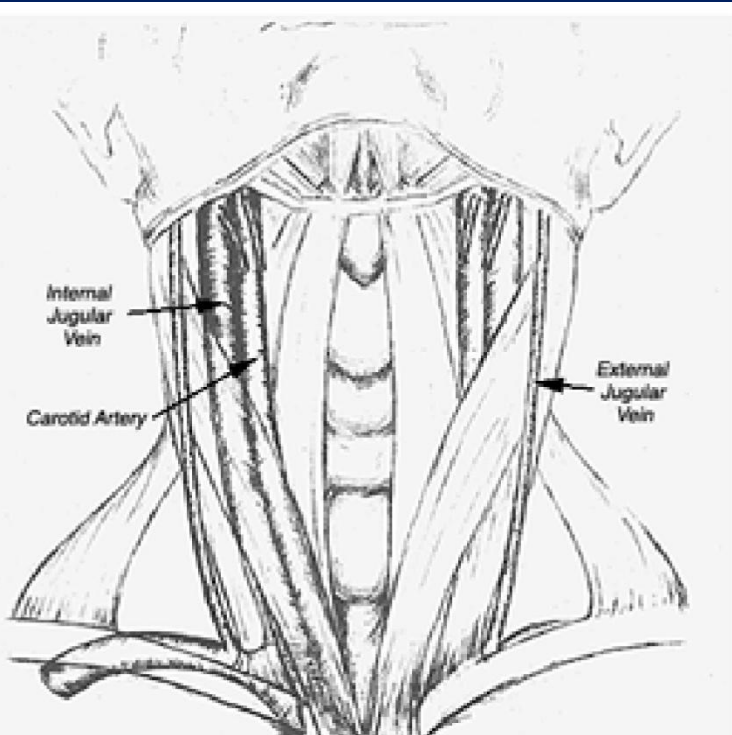
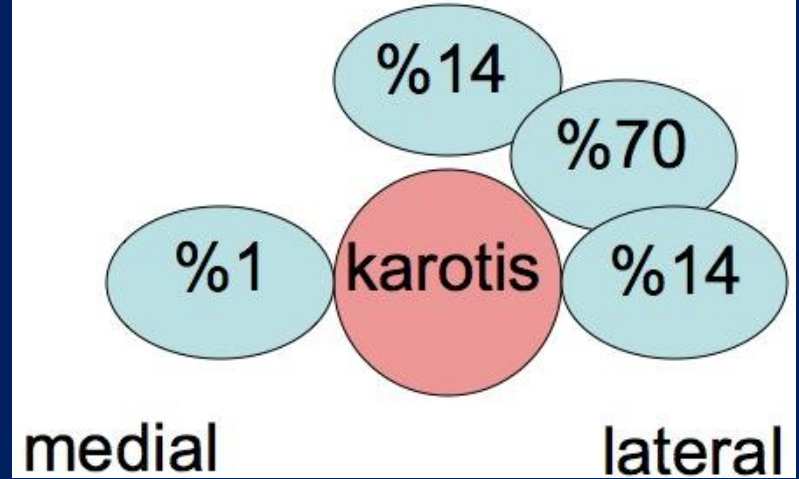
Objectives: To evaluate the performance of the ultrasound (US) *sliding lung sign* as a predictor of endotracheal tube (ETT) placement. Many other tools and examination findings have been used to confirm ETT placement; erroneous placement of the ETT has even been confirmed by US.

Methods: This was a laboratory study using fresh, recently dead cadavers. Cadavers were obtained at a medical school anatomy laboratory on the basis of availability during a four-month period. Subjects who died from significant trauma or after thoracic surgery were excluded. A numerical randomization tool was used to direct where the tube would be placed on intubation. Laryngoscopy was performed, and



Santral venöz kateter takılırken USG

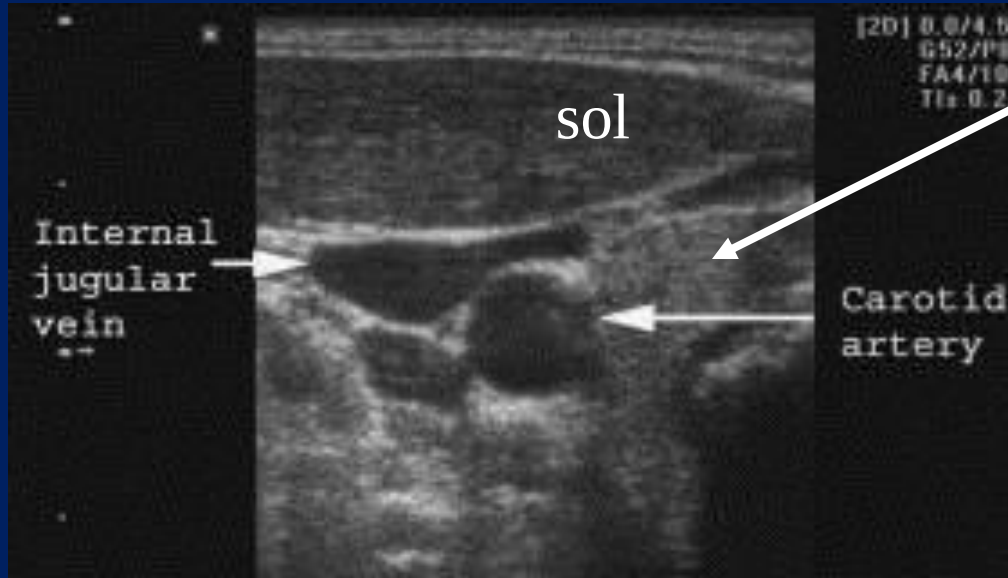
Karotis arter ve internal juguler ven



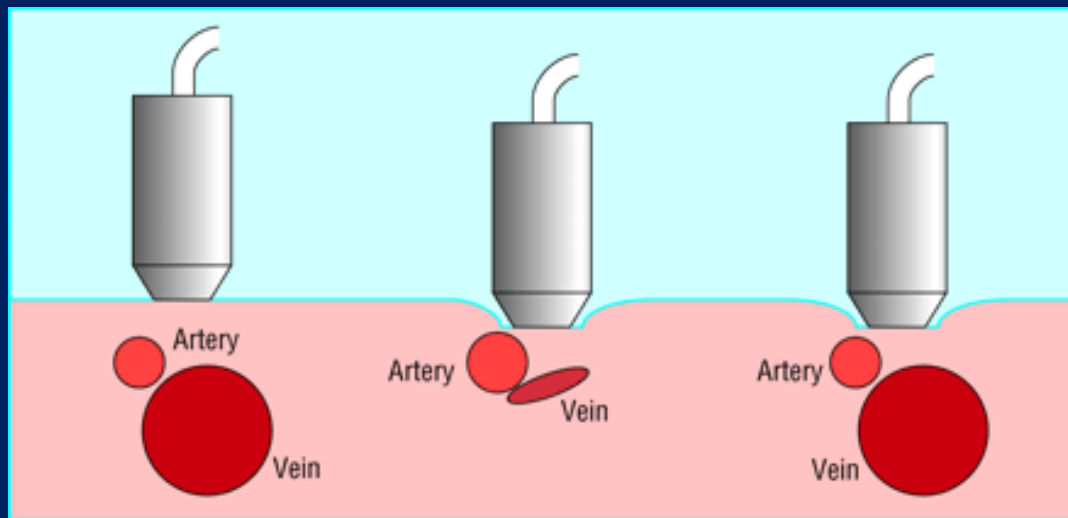
Study	Two dimensional ultrasonography (n/N)	Landmark method (n/N)	Relative risk (95% CI random)
Failed catheter placement (adults, internal jugular vein)			
Mallory et al 1990 ^{w9}	0/12	6/17	←■—
Nadig et al 1998 ^{w10}	0/36	13/37	←■—
Slama et al 1997 ^{w11}	0/37	10/42	←■—
Soyer et al 1993 ^{w12}	0/24	5/23	←■—
Sulek et al 2000 ^{w13}	3/60	5/60	—■—
Teichgräber et al 1997 ^{w14}	2/50	26/50	—■—
Troianos et al 1991 ^{w15}	0/77	3/83	←■—
Total (95% CI)			
	5/296	68/312	—■—
Test for heterogeneity: $\chi^2=6.66$ df=6, $P=0.33$			

USG ile komplikasyon riski daha az

Santral venöz kateter takılırken USG



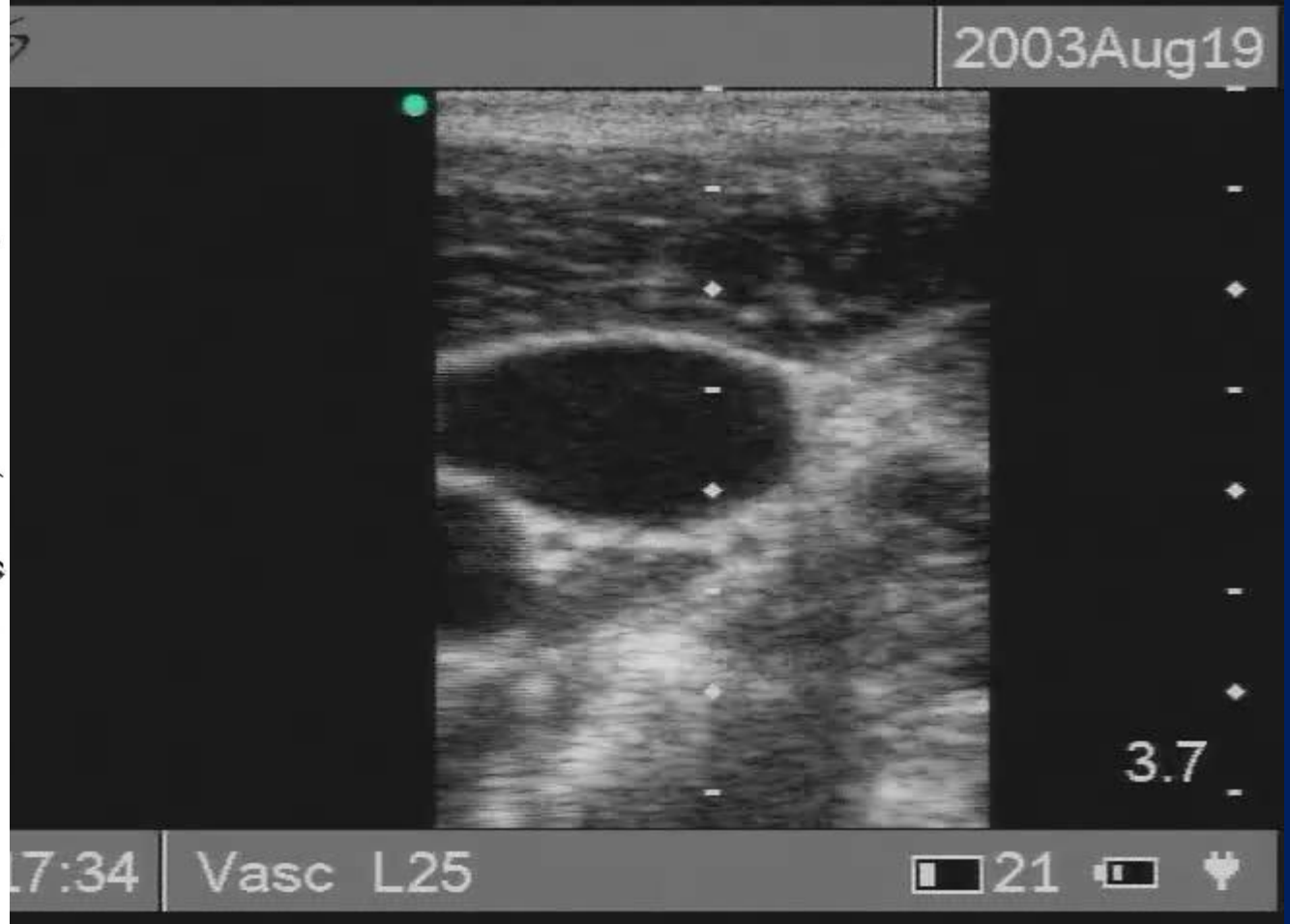
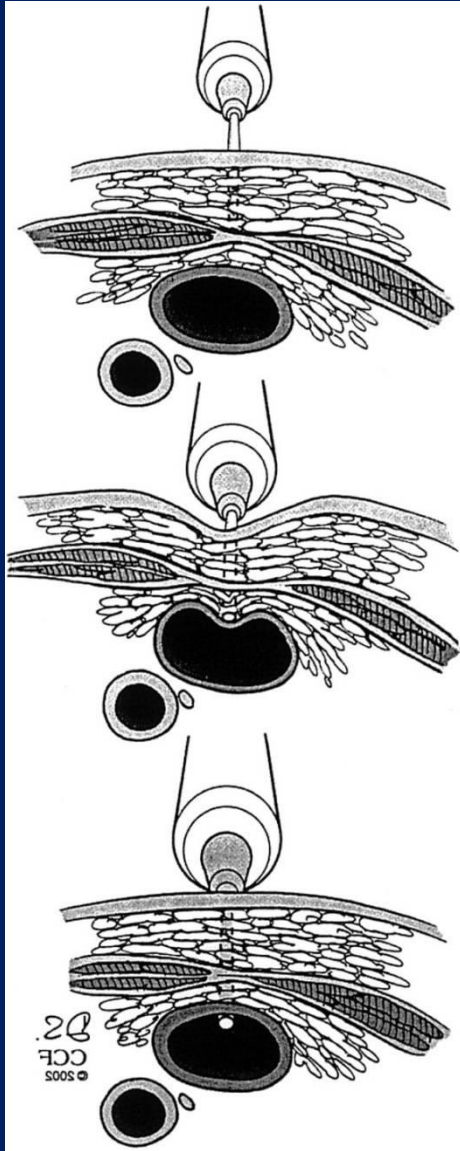
Tiroid



Santral venöz kateter takılırken USG



İnt. juguler ven kateterin yerleştirilmesi



USG ile santral venöz kateter



Daha küçük venler için de...

082 Nurse-performed Ultrasound-guided Upper Extremity Venous Cannulation in Emergency Department Patients with Difficult Venous Access

Brian F Chinnock, Stephen Thornton, Gregory W Hendey; UCSF, Fresno, Medical Education Program: Fresno, CA

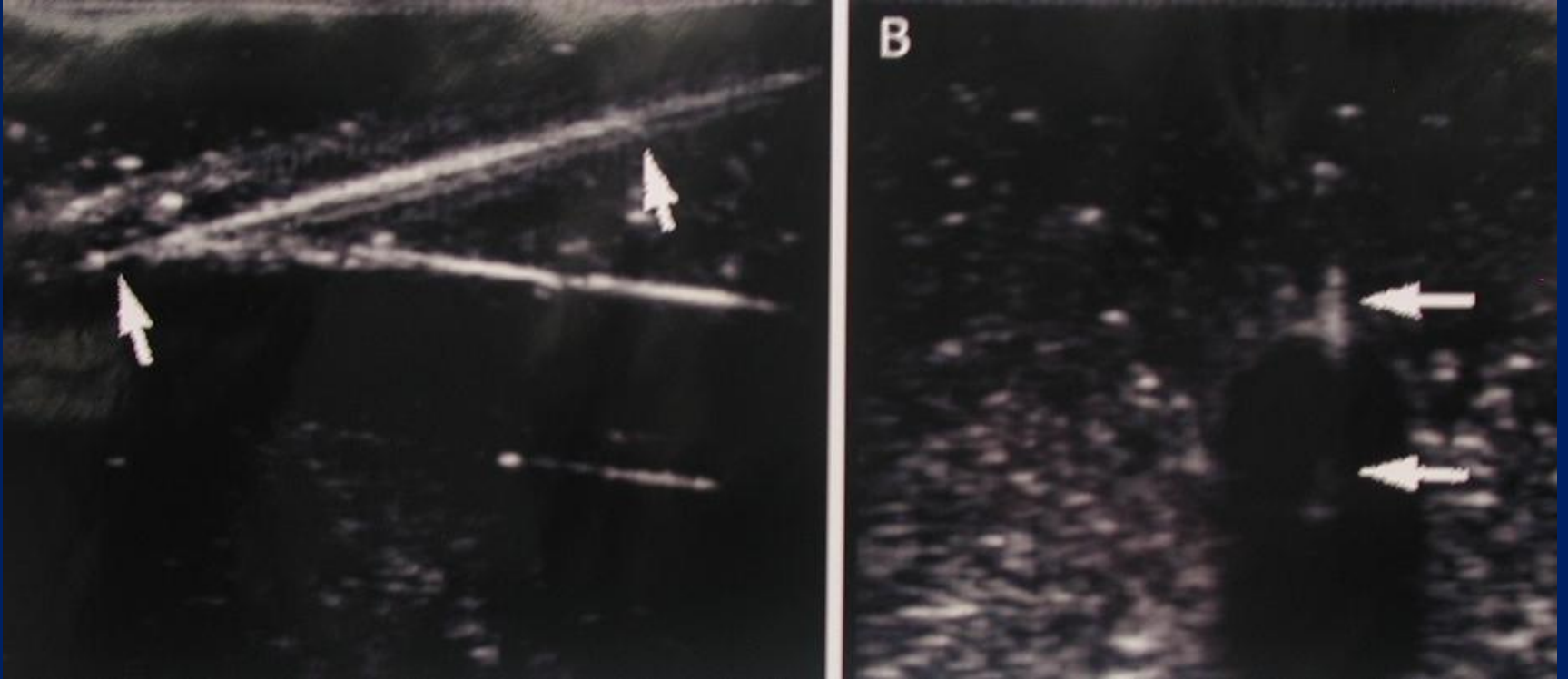
Objective: To determine the proficiency of nurses in placing peripheral lines using ultrasound (US) guidance in patients who had failed initial intravenous (IV) attempts. **Methods:** Prospective, observational study of patients presenting to the emergency department (ED) with at least 2 failed peripheral IV attempts and no other obvious peripheral vein suitable for cannulation. Nurses were given a 2-hour training course in US-guided cannulation. A standardized



Figure 2: Common sites to "look

1. Intern's vein
2. Median antecubital vein
3. Cephalic vein
4. Brachial vein
5. Basilic vein

Daha küçük venler için de...



Transvers keside bakarak
branülü takmak daha kolay

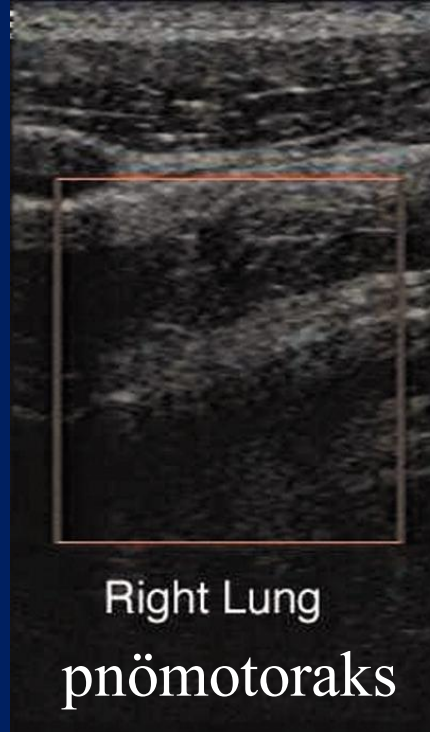
Pnömotoraks var mı?

Emergency Bedside Ultrasound to Detect Pneumothorax

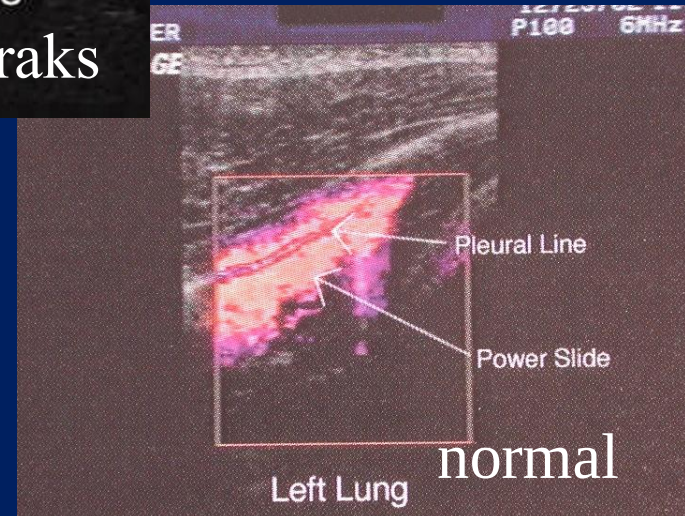
To the Editor:—The recent review article on the application of bedside ultrasonography to the diagnosis of pneumothorax presented by Chan was both interesting and informative. It was an accurate description of most of the techniques and sonography of a pneumothorax with tremendous detail. It has been termed, utilizing identification as color Doppler in Power color Doppler motion detection standard color for able to more re



(Figure 2) excludes We believe reproducing for the professional emergency all enclosed Islam, hoo.co universit Detroit, M referen



Doppler ile



Pnömotoraks var mı?

Efficacy for diagnosing pneumothorax in multiple trauma patients by clinician-performed ultrasonography and radiography

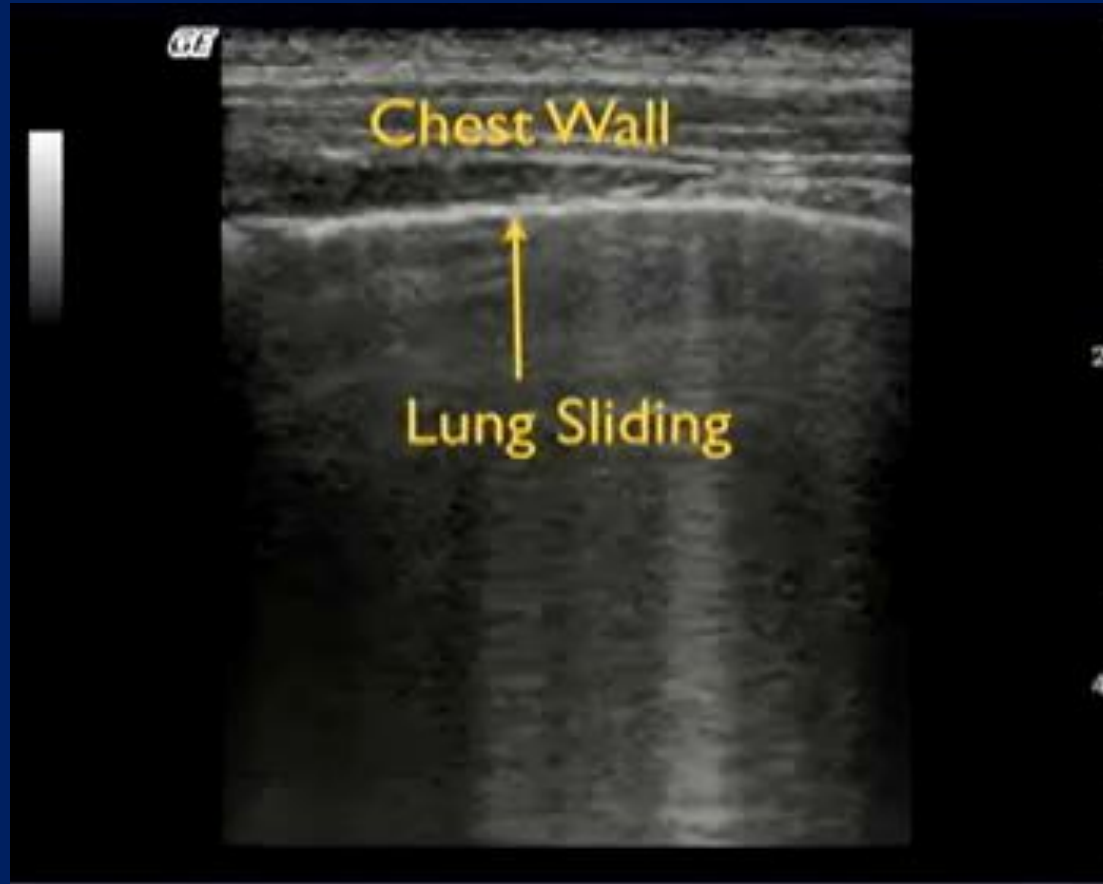
Parameters	Ultrasonography (%)		Radiography (%)		Comparison
	Value	95%CI	Value	95%CI	P
Sensitivity	86.2 (25/29)	73.7–98.8	27.6 (8/29)	11.3–43.9	<0.001
Specificity	97.2 (103/106)	94.0–100	100 (106/106)	100–100	0.246 ^a
Positive predictive value	89.3 (25/28)	77.8–100	100 (8/8)	100–100	1.0 ^a
Negative predictive value	96.3 (103/107)	92.7–99.9	83.5 (106/127)	77.0–89.9	0.002
False positive ratio	2.8 (3/106)	0–6.0	0 (0/106)	0–0	0.246 ^a
False negative ratio	13.8 (4/29)	1.2–26.3	72.4 (21/29)	56.1–88.7	<0.001
Accuracy	94.8 (128/135)	91.1–98.6	84.4 (114/135)	78.3–90.6	0.005

^aFisher's exact test. CI, confidence interval.

Normal: pnömotoraks yok



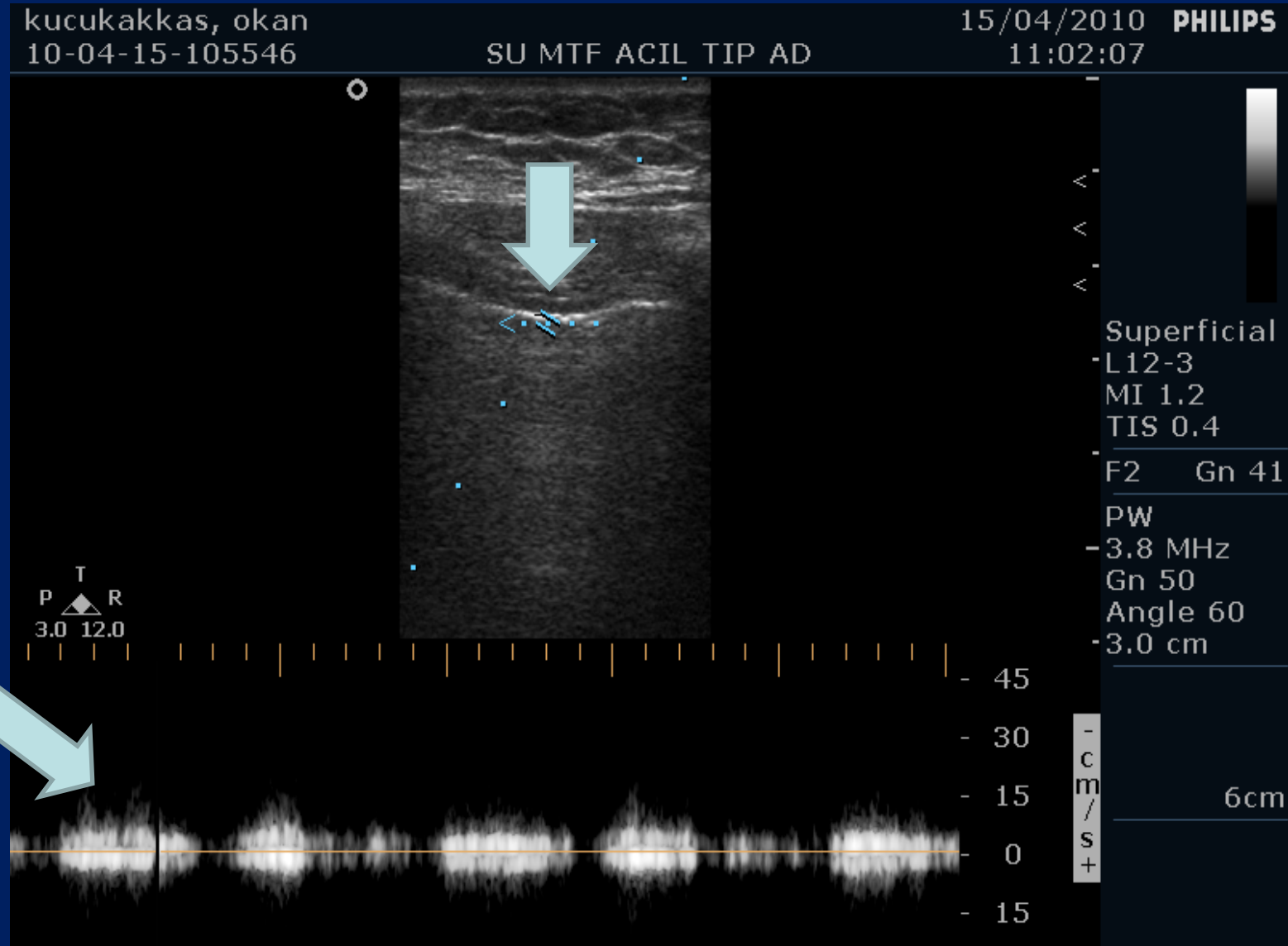
Normal: pnömotoraks yok







Plevral Kayma Sesi (PSS)

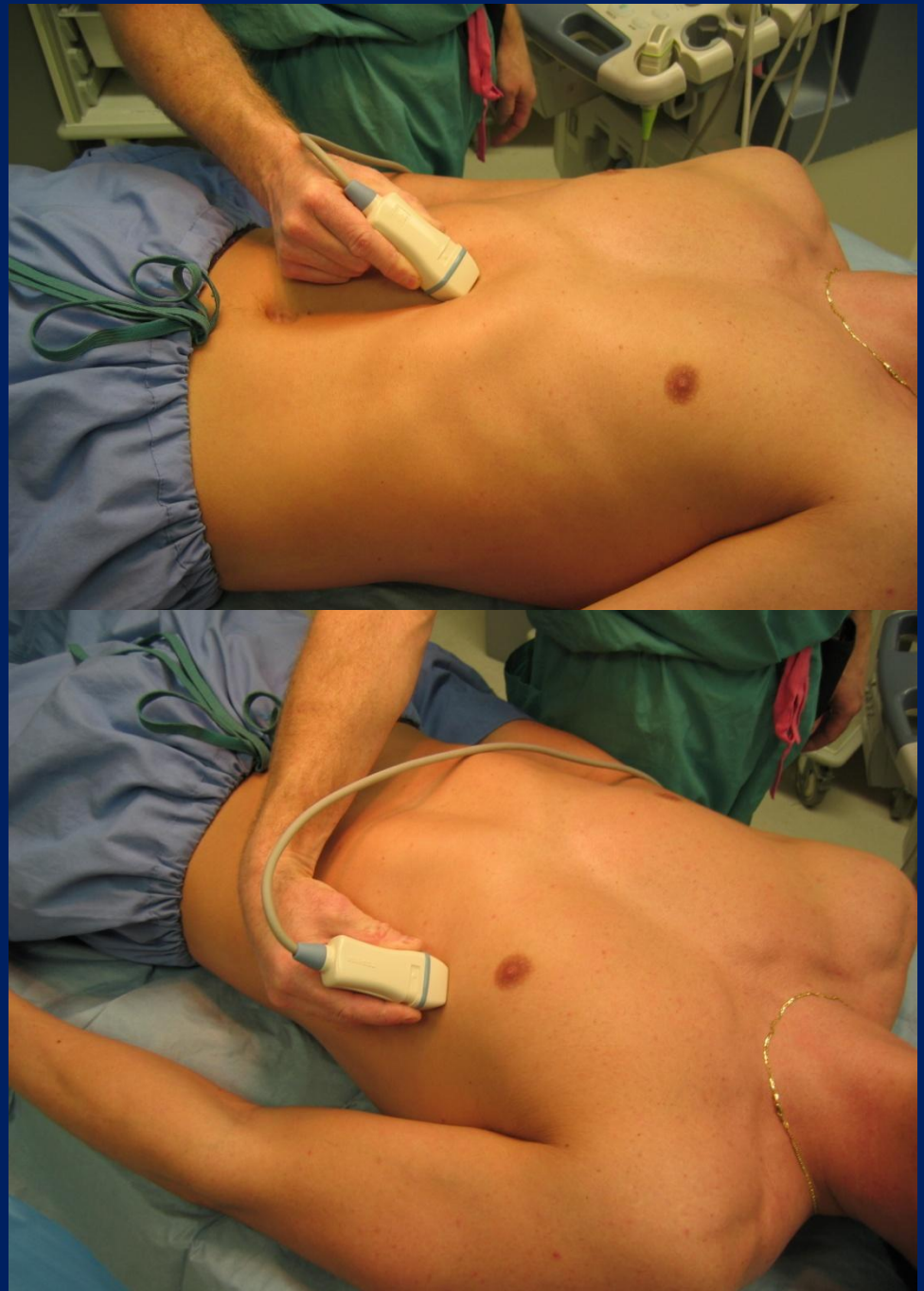
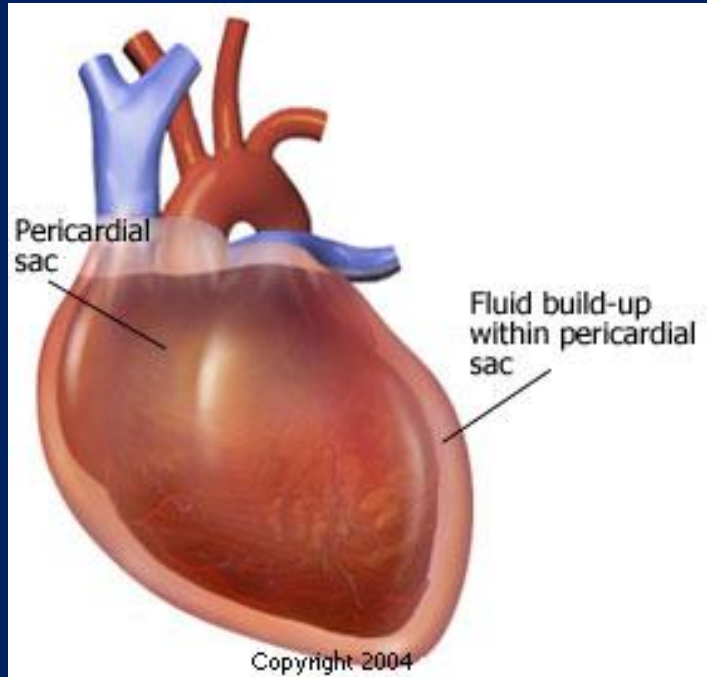


Perikardiyosentez

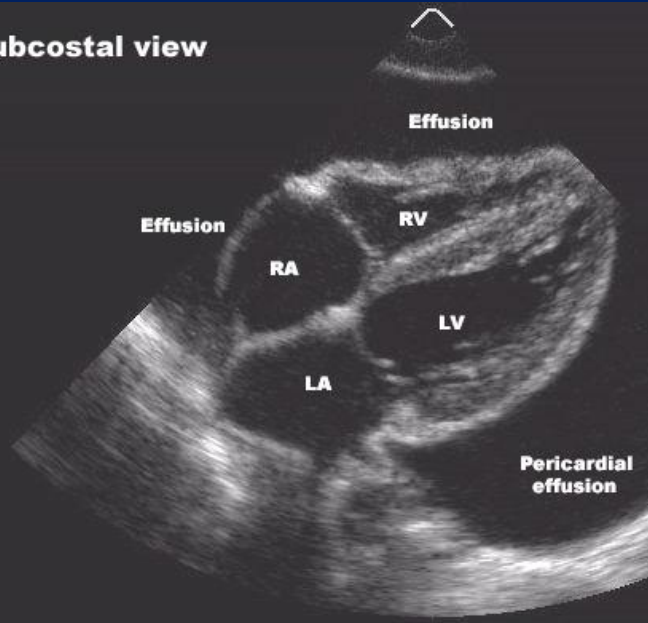
- USG cihazı yoksa subkostal yaklaşım
- USG ile yapmak daha az sorun...
- Sıvı birikiminin toraks duvarına *en yakın olan yerden* girilir

USG ile yapılan perikardiyosentez

- Girişim yerinden emin olmak için iğneden çalkalanmış izotonik verilir
- Seldinger yöntemi ile kateter takılır
- Efüzyon drene edilir

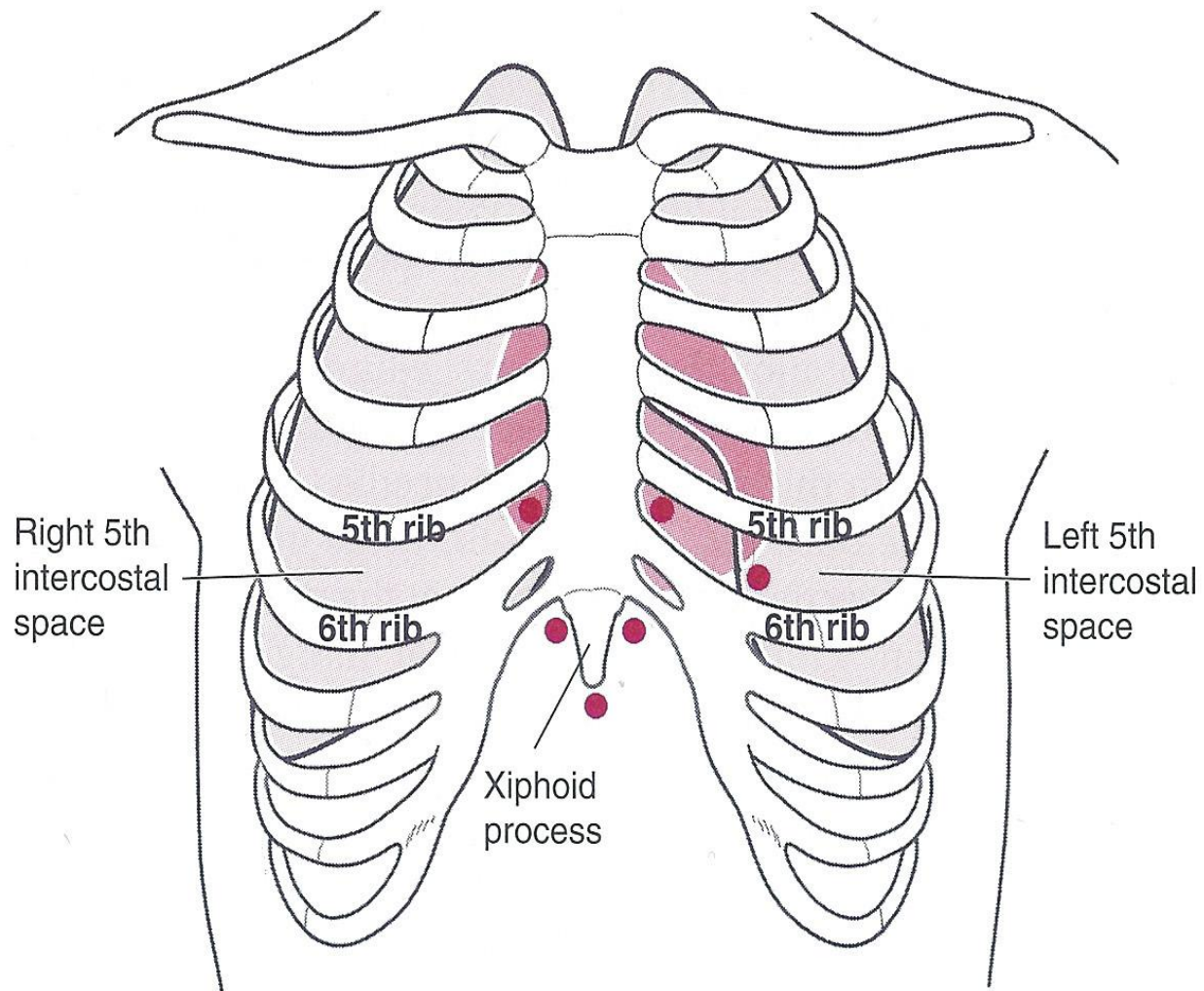


Subcostal view



Apikal 4 odacık yönü



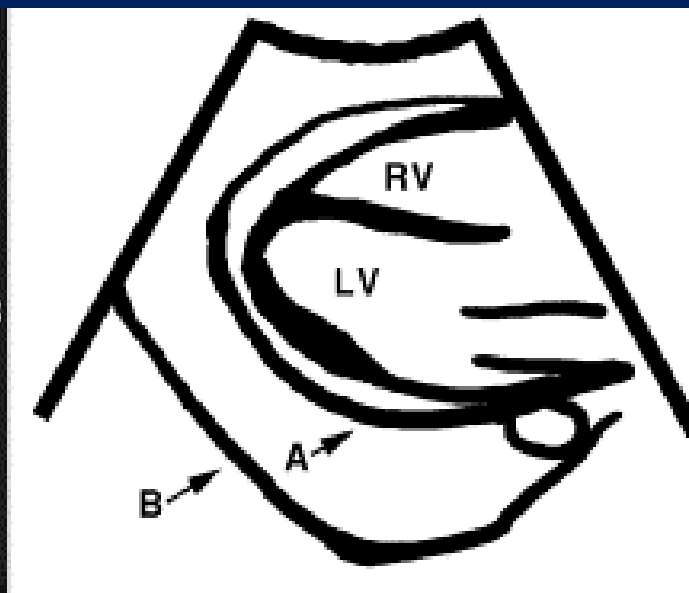
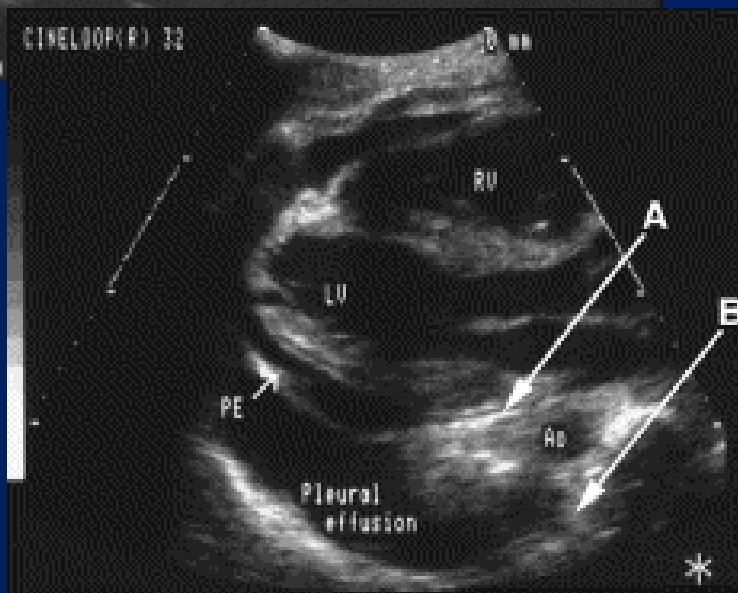
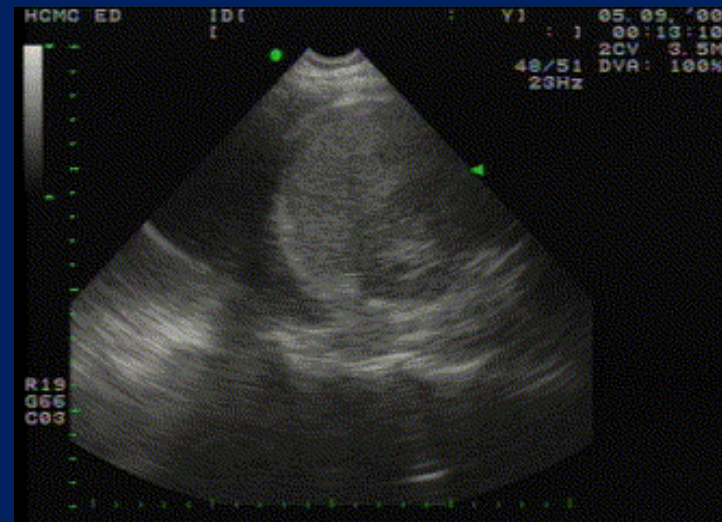
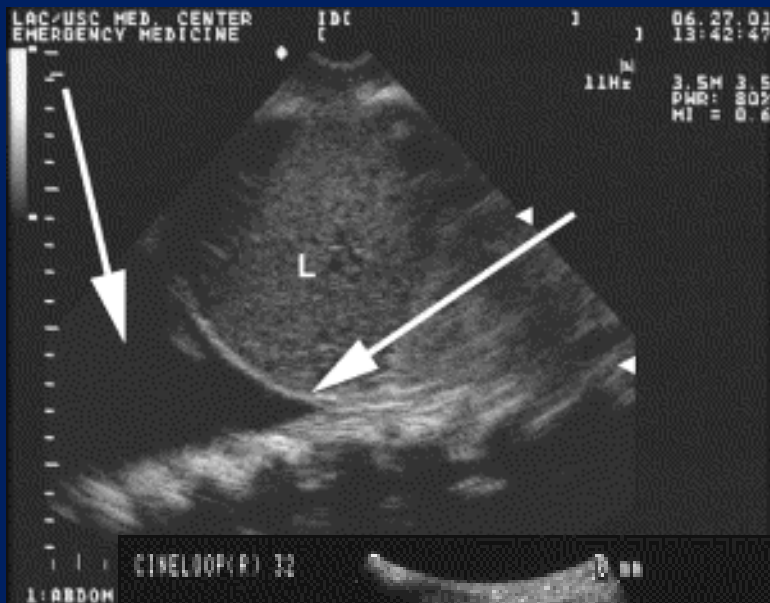


Tercihimiz: apekte perikardiyosentez

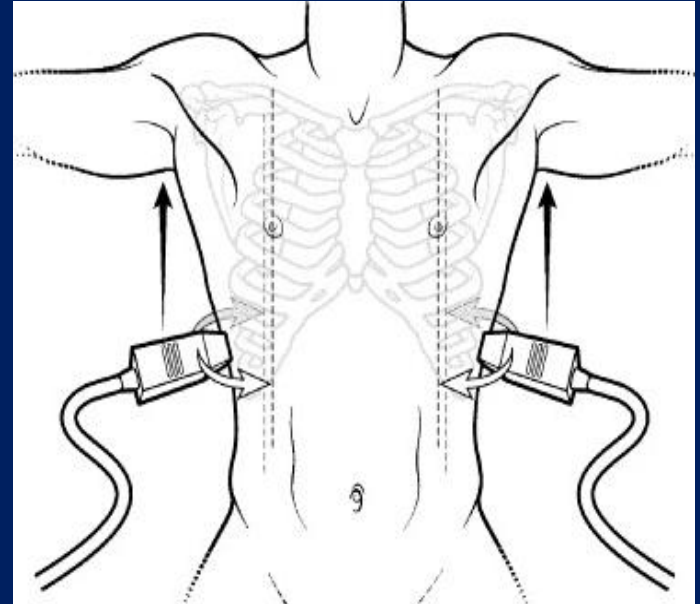
Apical Approach-Facilitation of Pericardiocentesis

Ideal entry site, No. (% of all entries)			
Chest wall, No.	175 (79)	313 (76)	402 (81)
Para-apical	147 (67)	257 (62)	310 (63)
Left axillary	6 (3)	23 (6)	21 (4)
Left parasternal	19 (9)	24 (6)	40 (8)
Right parasternal	2 (1)	8 (2)	29 (6)
Posterolateral	1 (0)	1 (0)	2 (0)
Subcostal, No.	46 (21)	89 (22)	73 (15)
Unspecified, No.	0 (0)	10 (2)	19 (4)

Plevral sıvı ve torasentez



Plevral sıvı ve torasentez



Left Upper Quadrant-Pleural Effusion

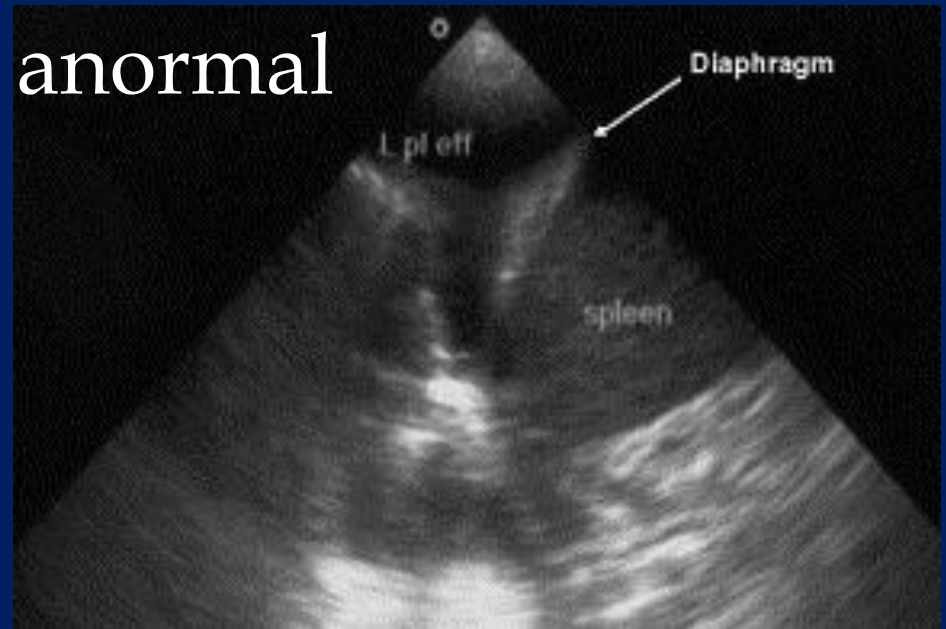


Small Pleural Effusion

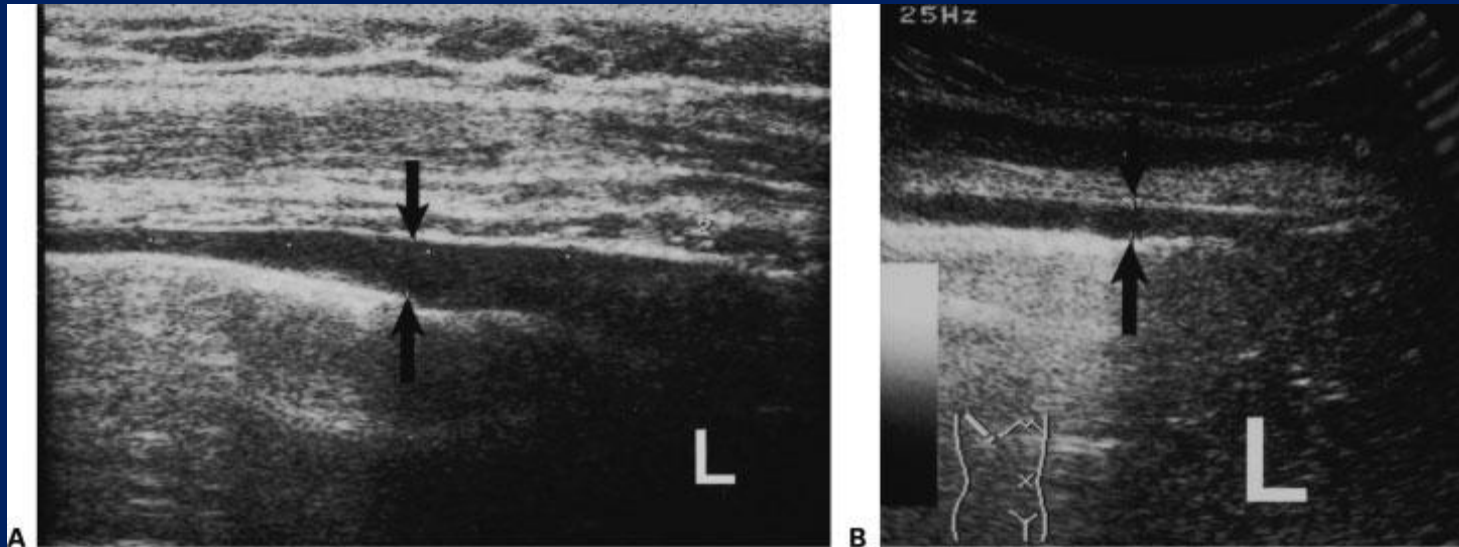


Plevral s1v1

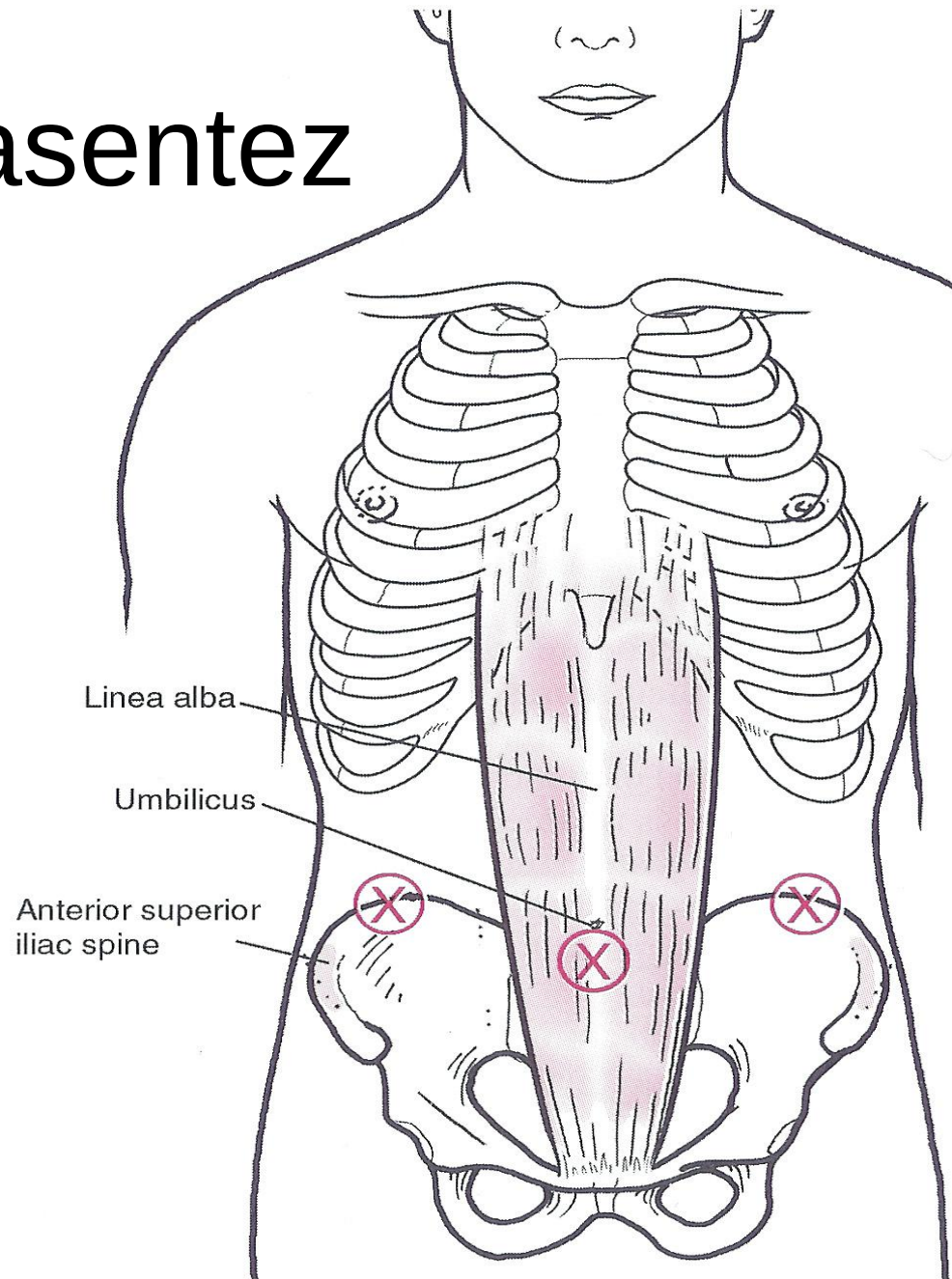
anormal



normal



Parasentez



HCMG ED

IDT

Y1

05.05.100

13:46:17

3CV 3.5M

DVA: 100%

45/51

26Hz

R19
G53
C04

1

2

3

4

5

6

7

CV 5.0 CV 3.5 CV 3.5

TV 14R 14R 60R

HENNEPIN CO. ID[
MEDICAL CENT [

: Y]

JAN. 17, 99

:]

04:19:47

2CV 3.5M

24/25

DVA: 100%

23Hz

[1]

R19

G66

C04

1: Abdomen

Suprapubik Aspirasyon

0 ♦

T

5 ♦

10 ♦

15 ♦

P55

6C3

T4.6

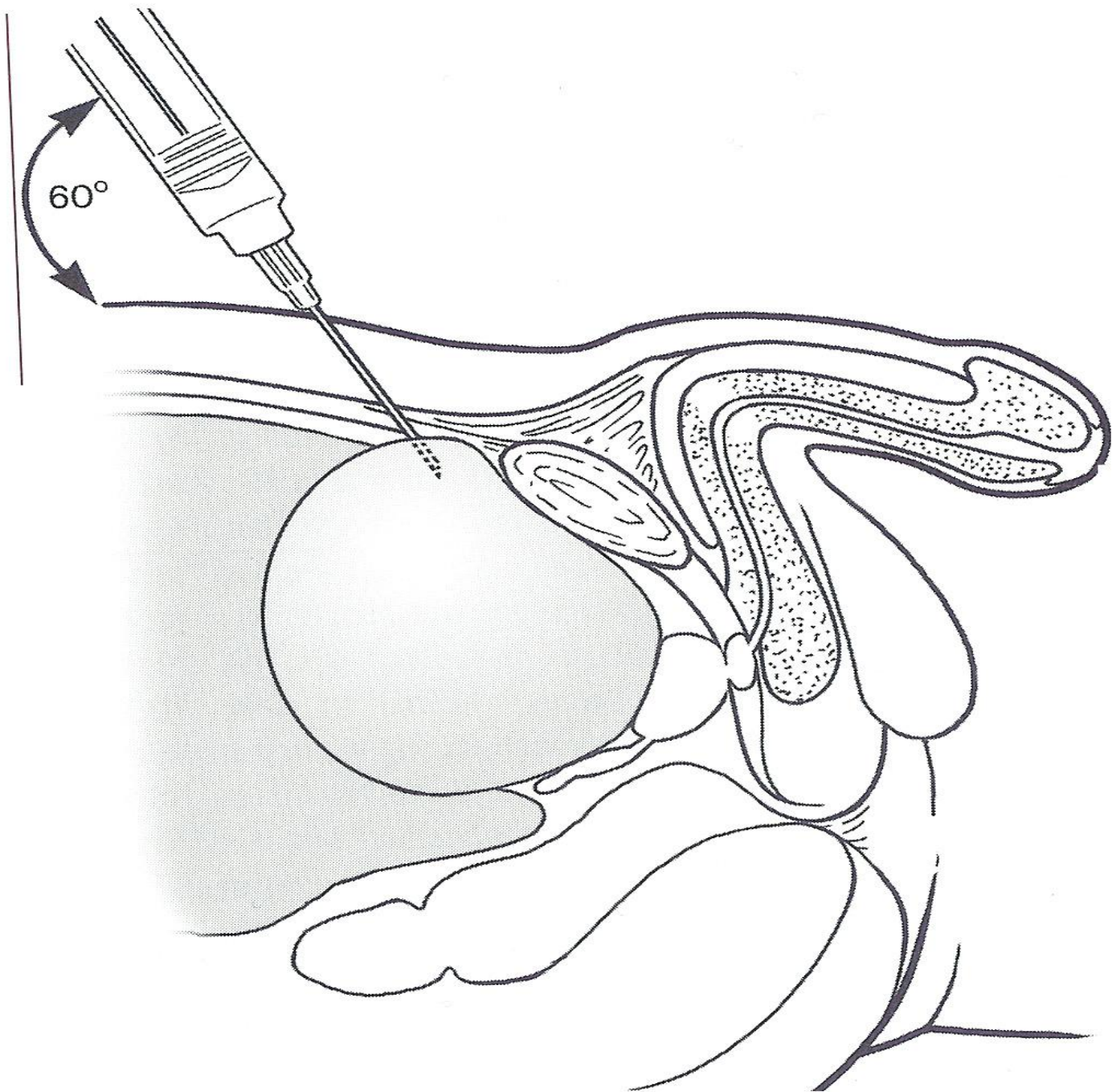
18fps

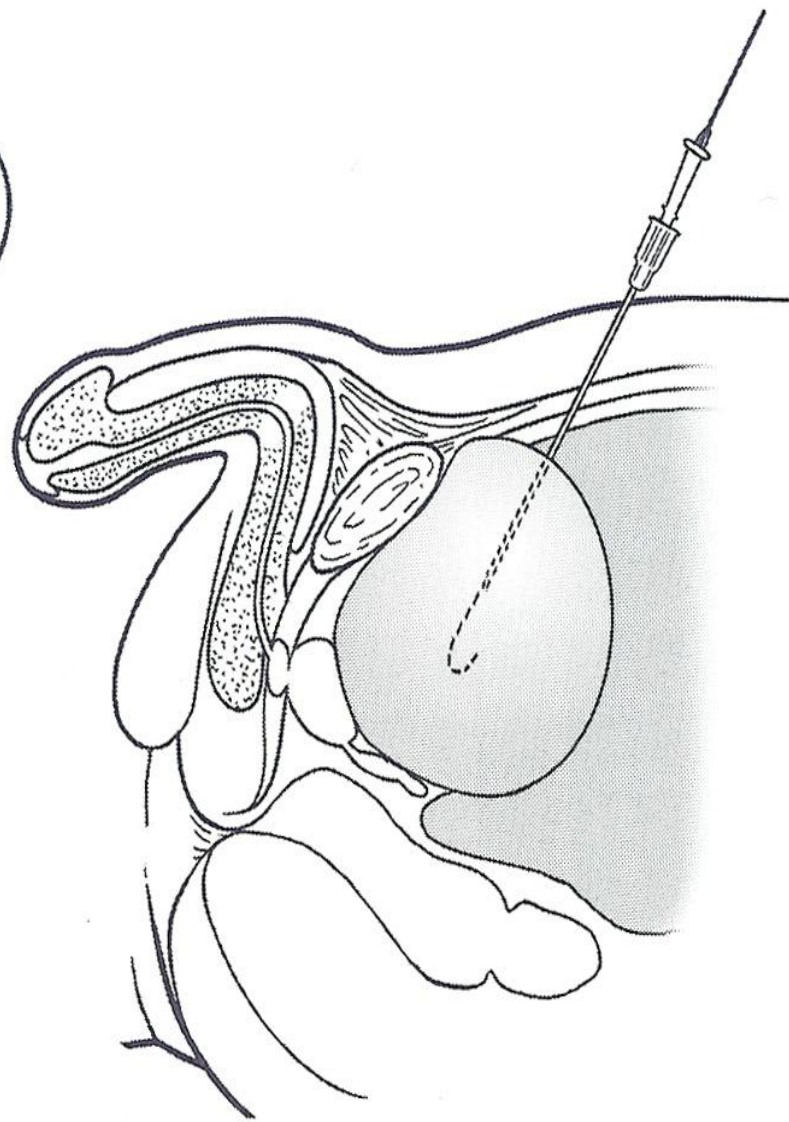
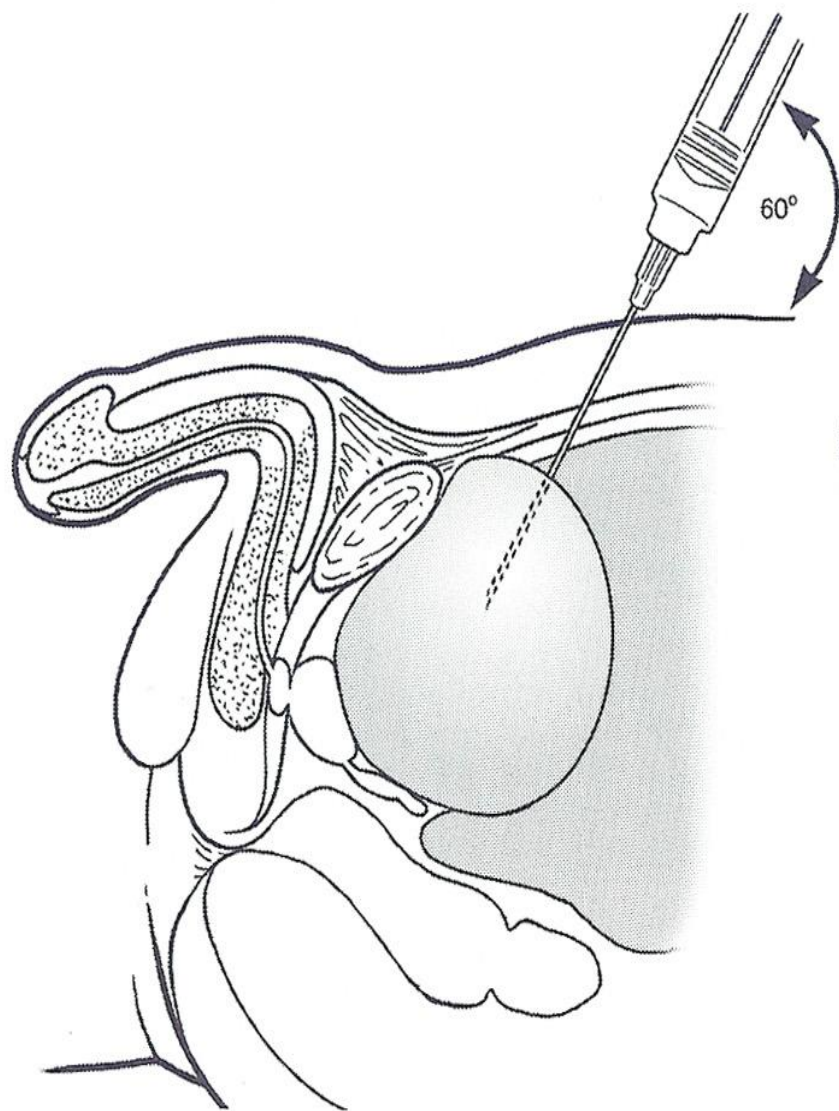
DR65

2DG

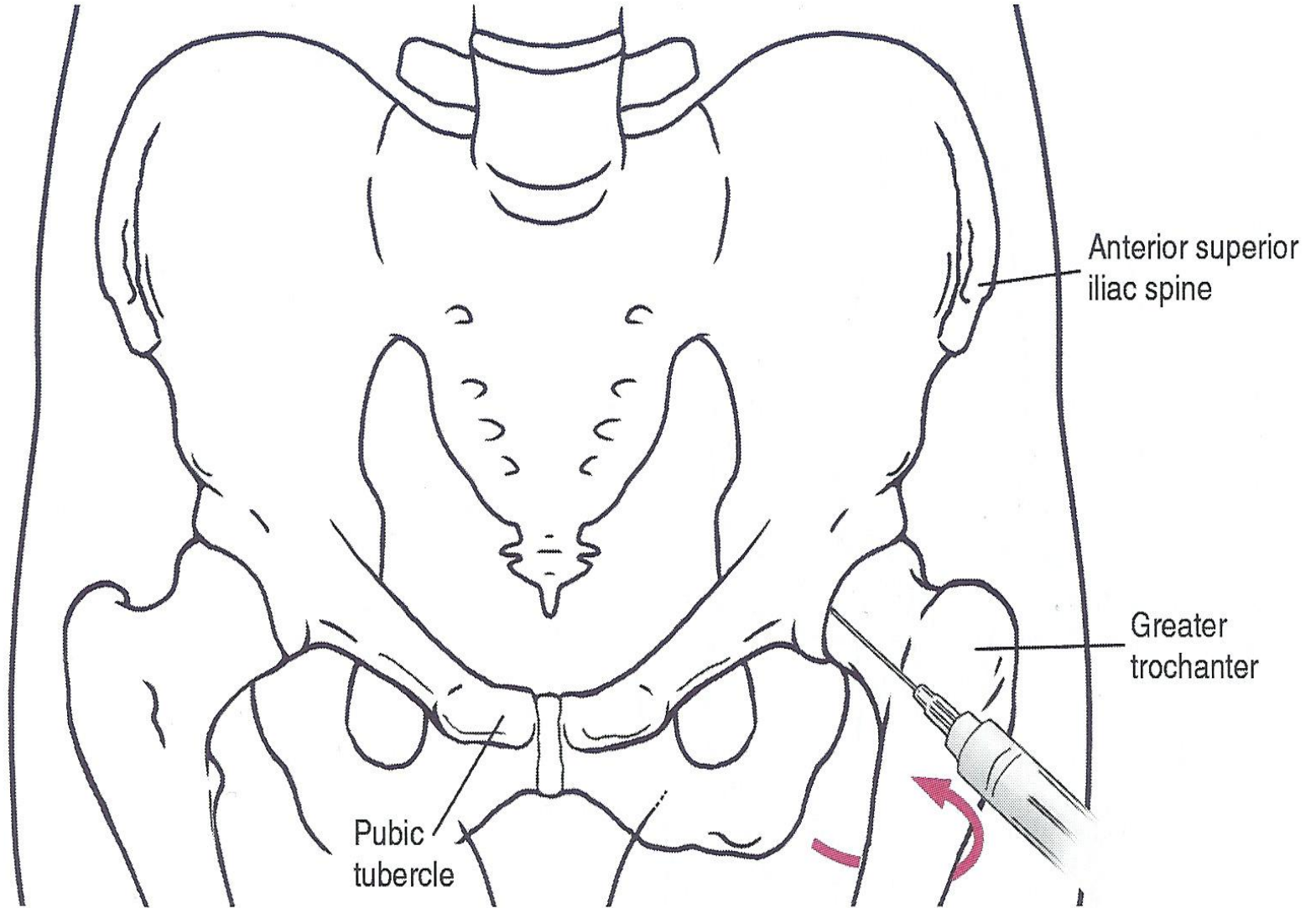
76

#26





Kalça ekleminde artrosentez



Wlett-Packard

Abdomen

12 Aug

14:41:

RbD

bright cortical
bone of femoral
head

anterior
recess

femoral neck

C3548

MI: 6

B: 9

GAIN

DR 60

1/6/3

14cm

12 Aug
14:45

Abdomen

femoral artery

joint space

bright cortical bone

C3548

MI:

E:

GAIN

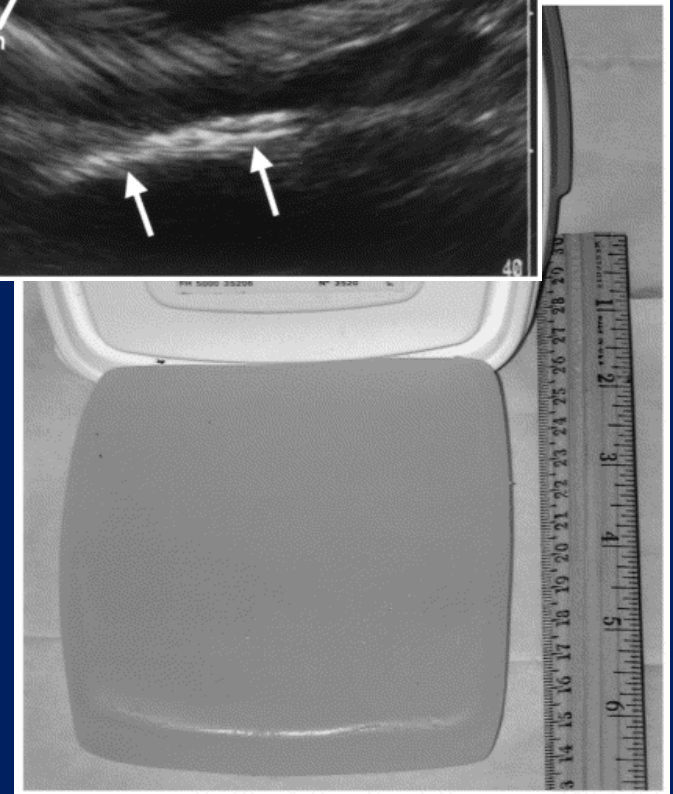
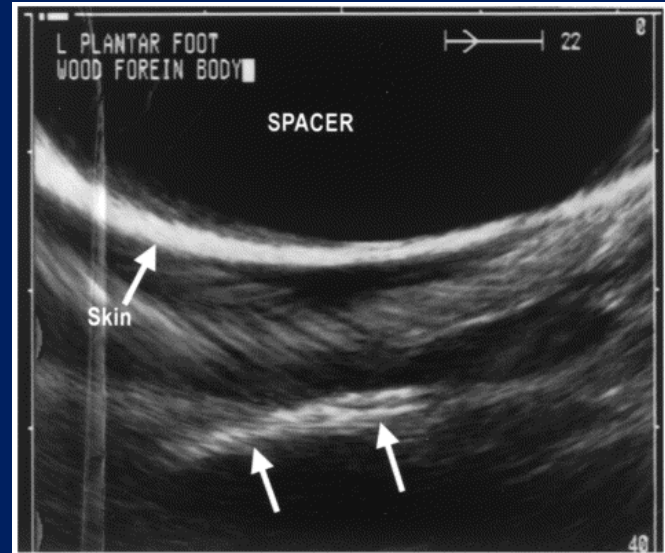
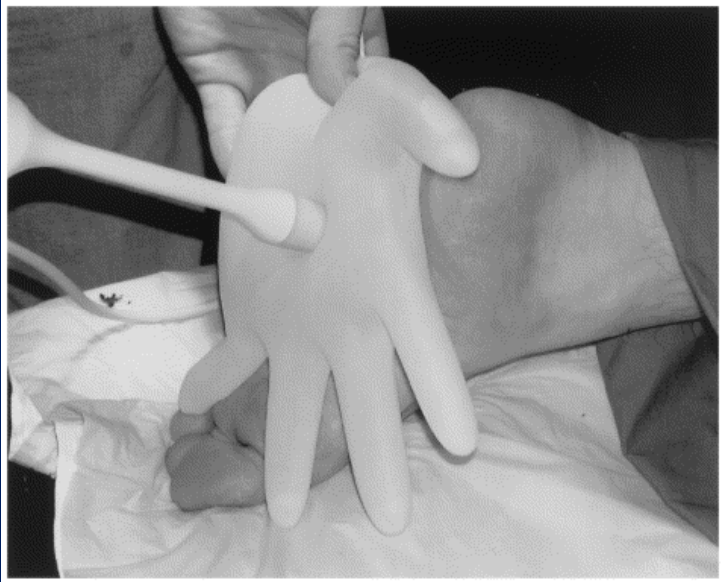
DR 6

1/6/

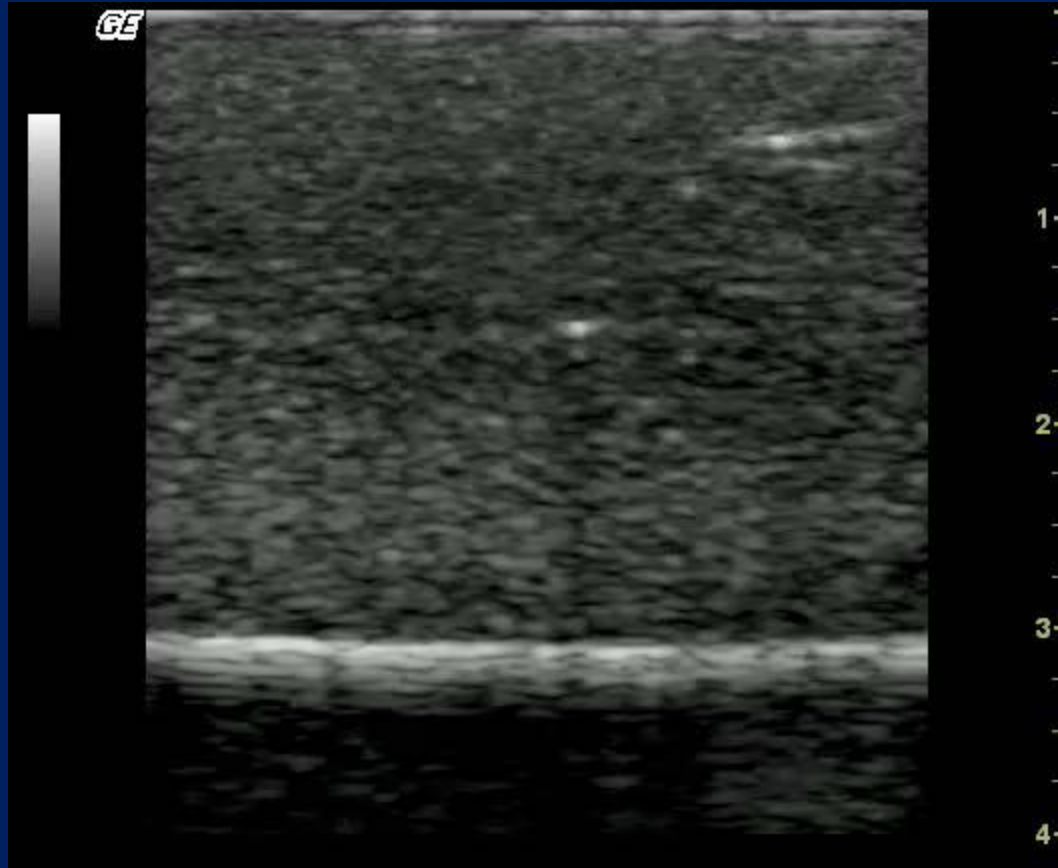
9cm

Yabancı cisimler

- Prob ve y.c. arasında mesafe



Yabancı cisimler



HD

GLASS



Blue Phantom

Philips Medical Systems

PHILIPS

6/28/2004
10:23:11 AM

HD

GLASS



Superficial
L12-3
MI 1.0
F5
63 %
232dB/C8
K/3/2

31 Hz
2 cm

Blue Phantom

Philips Medical Systems

PHILIPS

6/28/2004
10:40:59 AM

HD

SPLINTER LONG



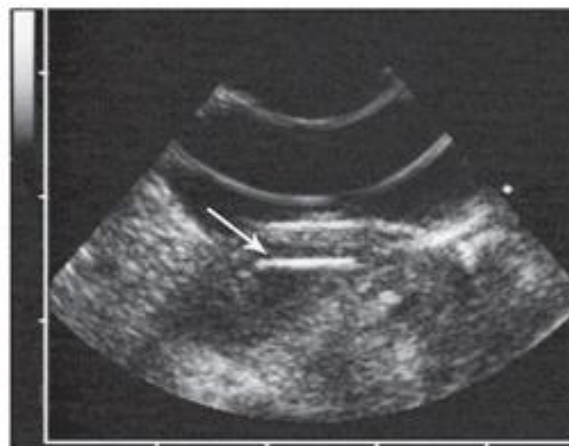
Superficial
L12-3
MI 1.0
F5
63 %
232dB/C8
K/3/2

31 Hz
2 cm





B



D





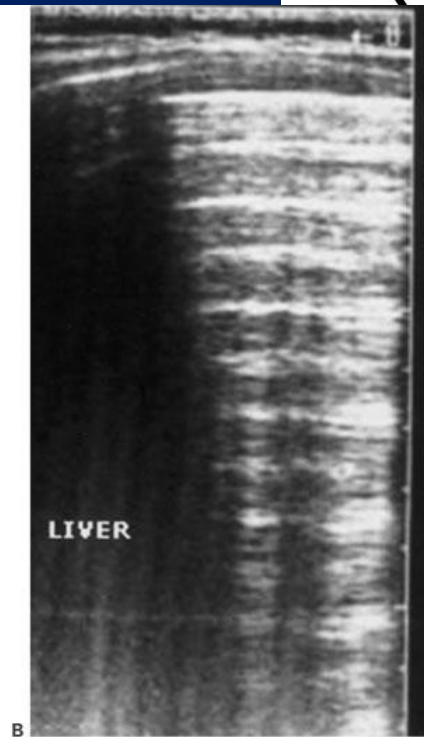
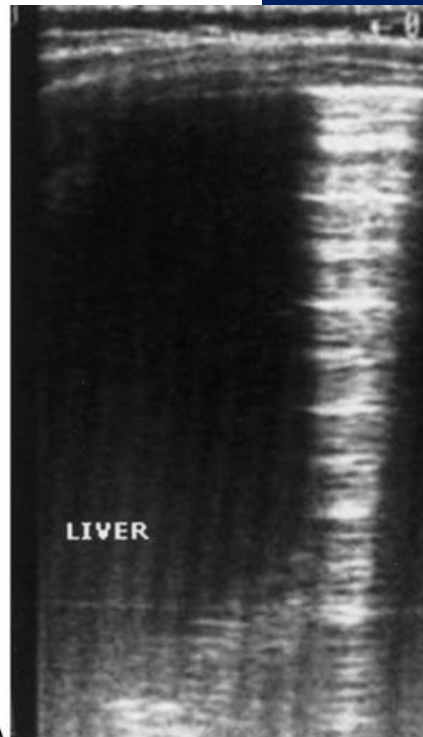
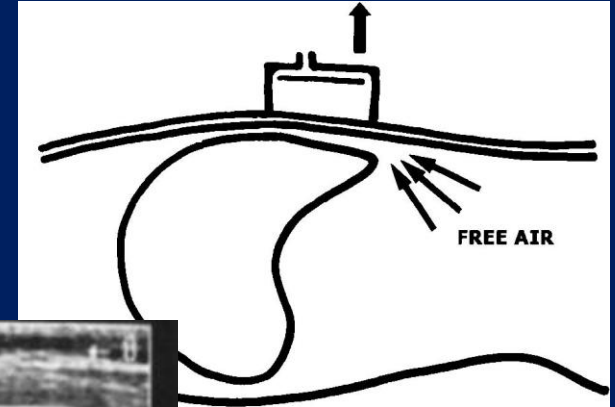
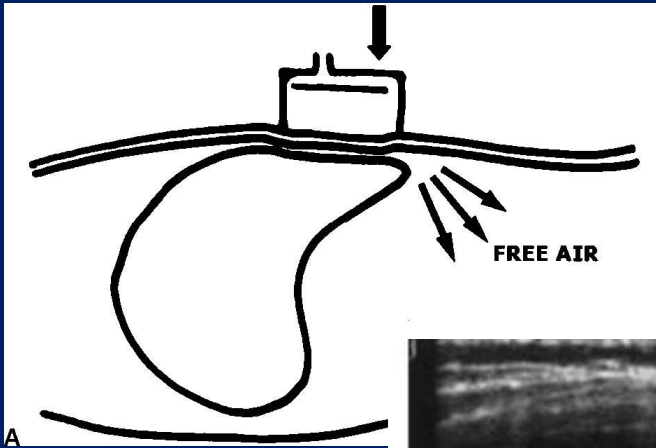
Yumuşak doku infeksiyonları

- 7.5-10 mHz ve 18-22 mHz problemleri
- Anatamik kontrol
- 3 kategori
 - Subkütan kalınlaşma ('thickening') (n=7)
 - Subkütan kalınlaşma ve pü (n=8)
 - Doku bozukluğu + abse (n=7)
- Fizik bulgular güvenilir değil

Yumuşak doku infeksiyonları



Serbest peritoneal hava



Serbest peritoneal hava



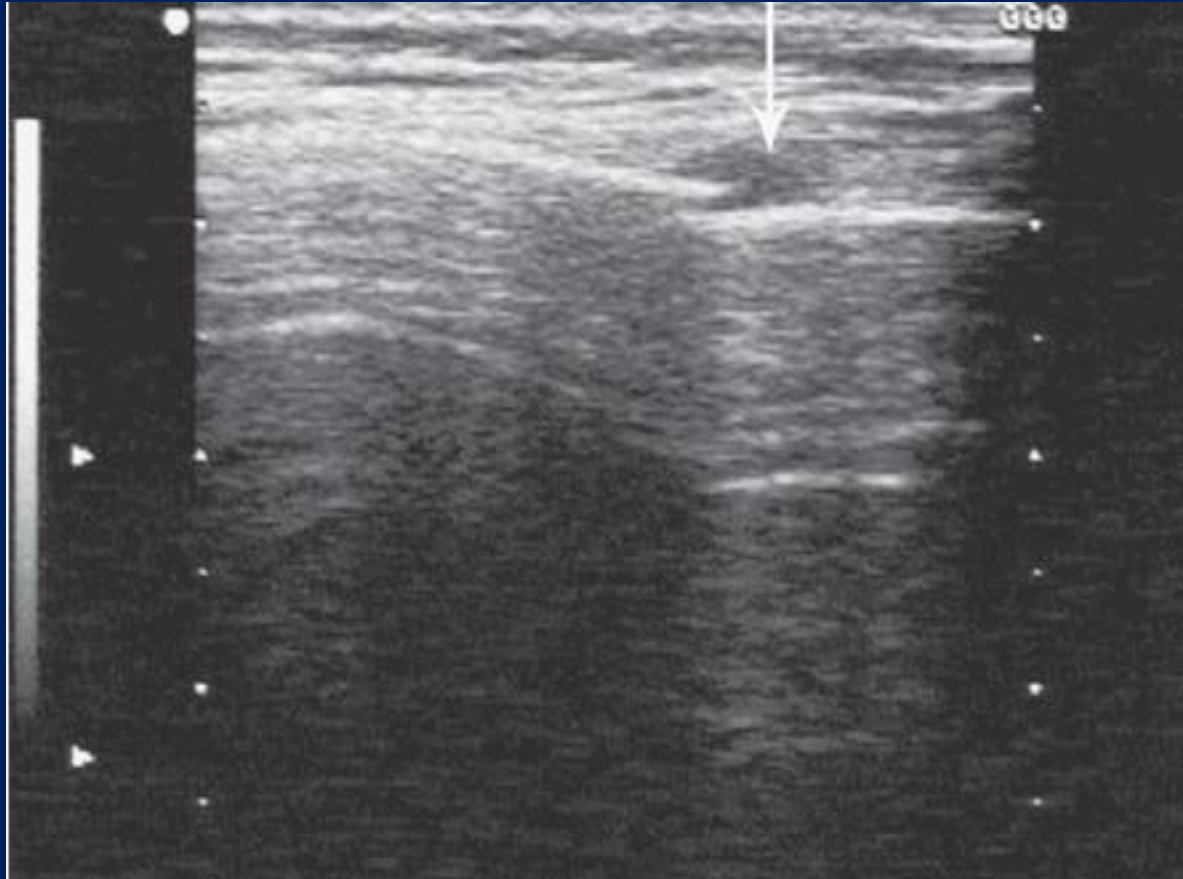
Diğer...

- Yüz kırıkları
- Sinüzit
- Şişman hastada LP' den önce
- Kot kırıkları
- Skrotumda ağrı / testis torsiyonu
- Epidural / subdural ??

Sinüzit



Sternum Fraktürü



TEŞEKKÜRLER

