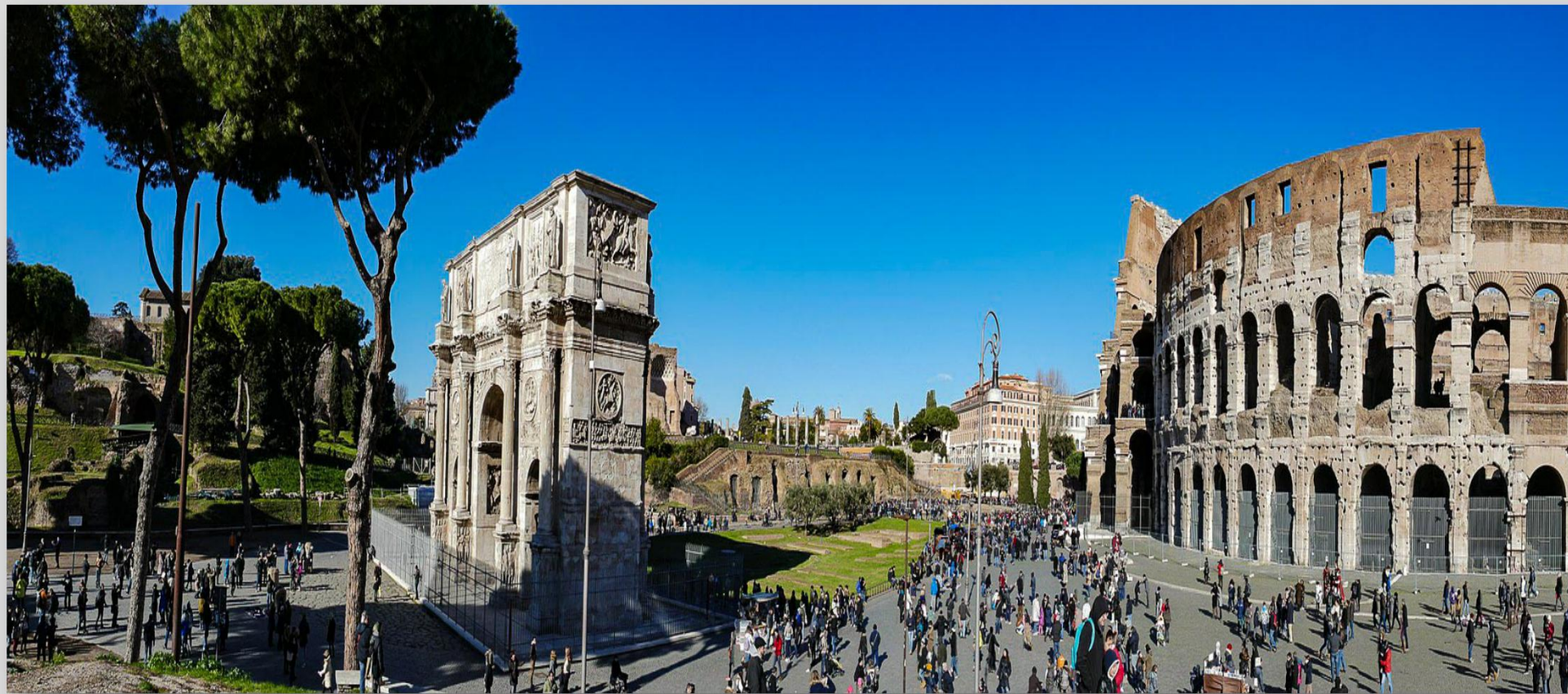


Valutazione US del Diaframma in corso di NIV è necessaria?

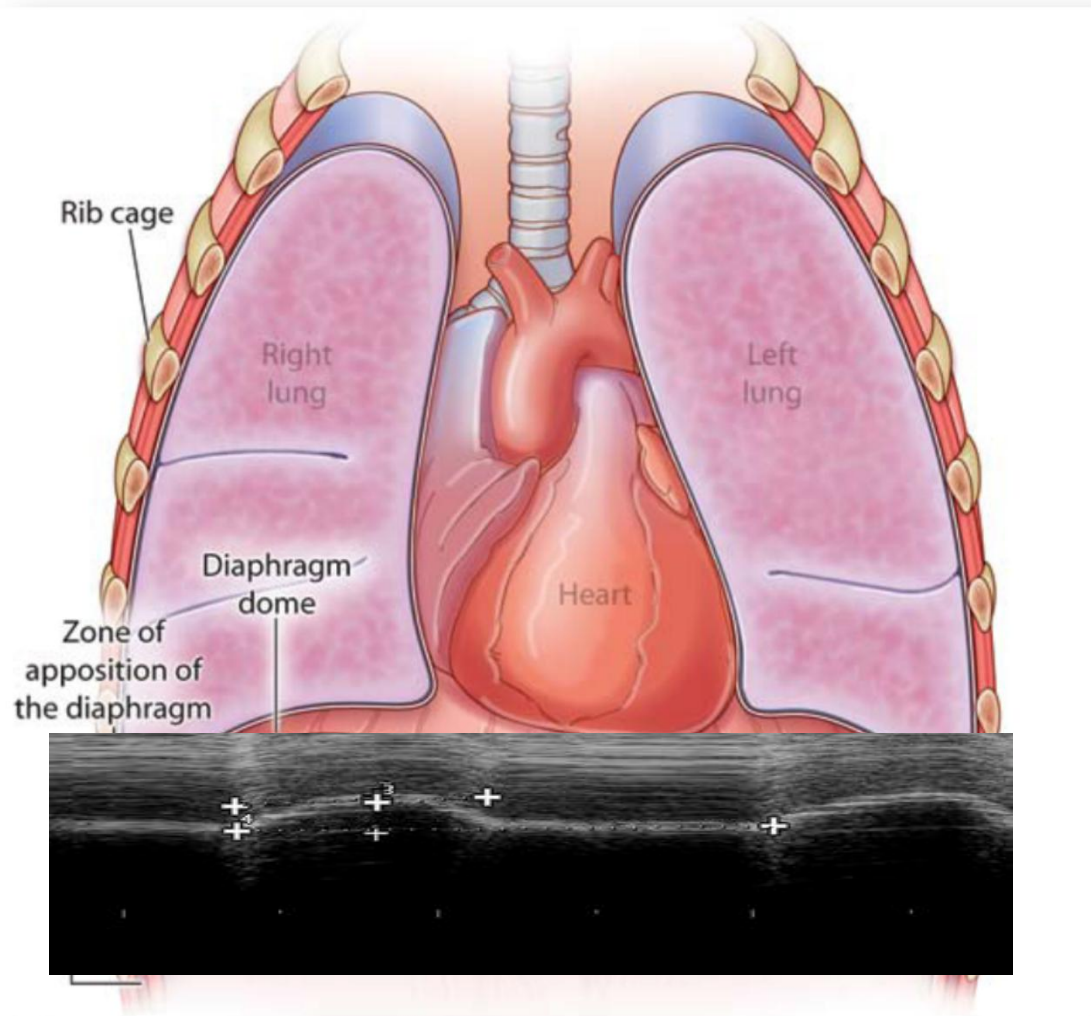


Lucia Morelli, Imma Caiazzo ,Marcella Santamaria, Paola Ragucci,Ilaria Vernioni, Sossio Verde ,Pietro Ferrara.

MU\PS\OBI Osp San Paolo Napoli

Heart-lung and Diaphragmatic interactions

Michael R. Pinsky Curr Opin Crit Care
2007



A 3D DISCRETE MODEL OF THE DIAPHRAGM AND HUMAN TRUNK*

EMMANUEL PROMAYON¹ AND PIERRE BACONNIER^{1,2}

ESAIM: PROCEEDINGS

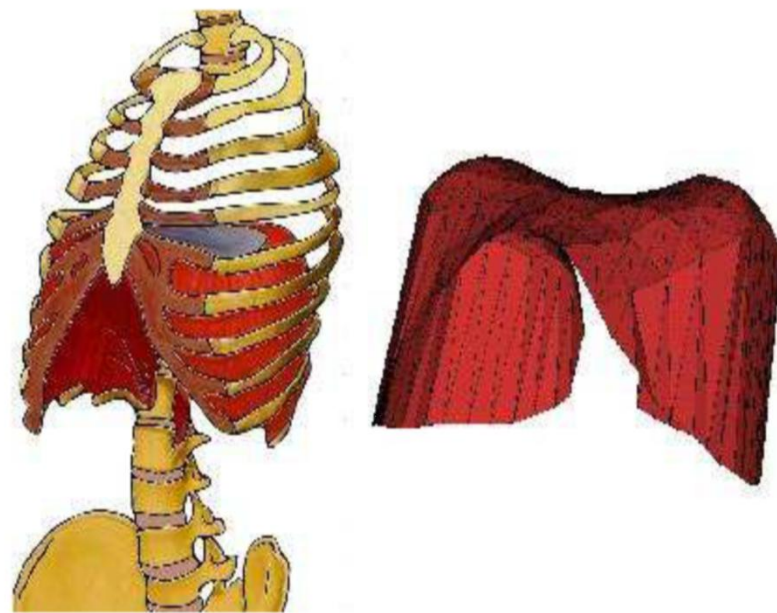
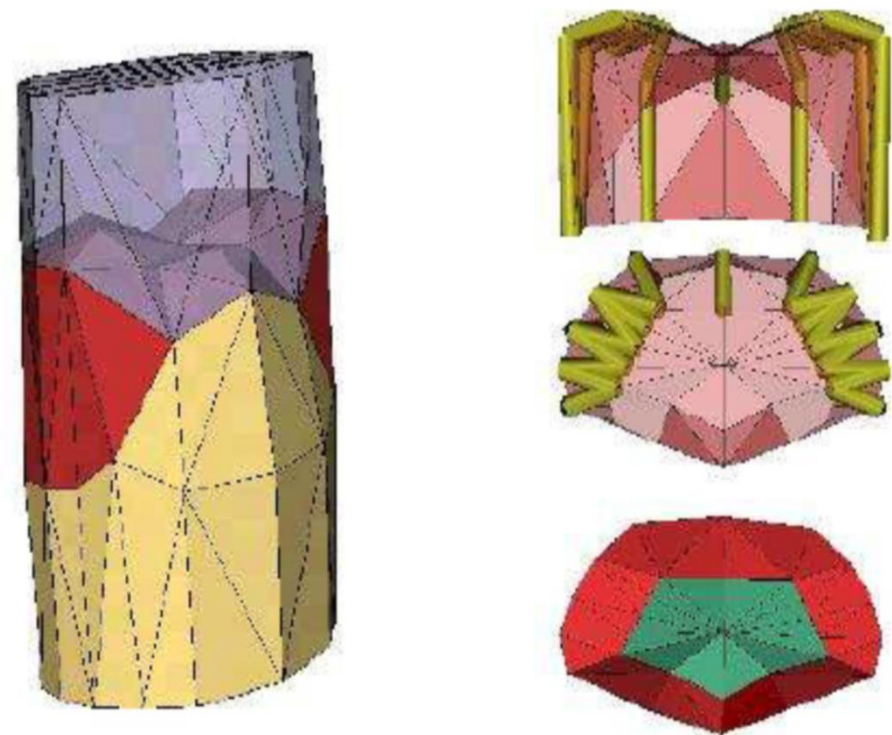


FIGURE 1. Human trunk. The diaphragm and its skeleton attachment (left). Reconstructed diaphragm surface (right).

ESAIM: PROCEEDINGS

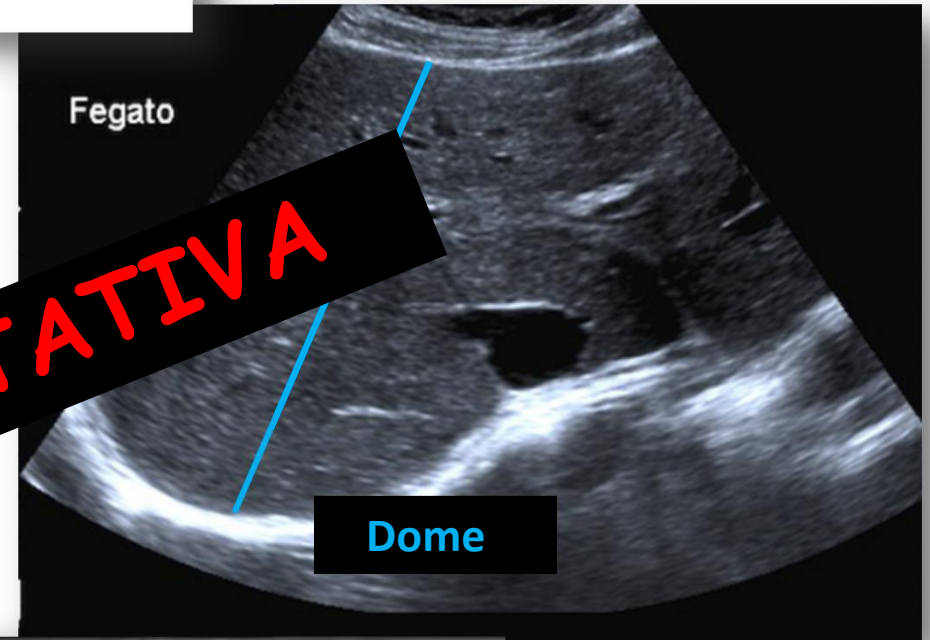


ULTRASOUND M-MODE ASSESSMENT OF DIAPHRAGMATIC KINETICS BY ANTERIOR TRANSVERSE SCANNING IN HEALTHY SUBJECTS

AMERICO TESTA,* GINO SOLDATI,[†] ROSANGELA GIANNUZZI,* SILVIA BERARDI,* GRAZIA PORTALE,*
and NICOLÒ GENTILONI SILVERI*

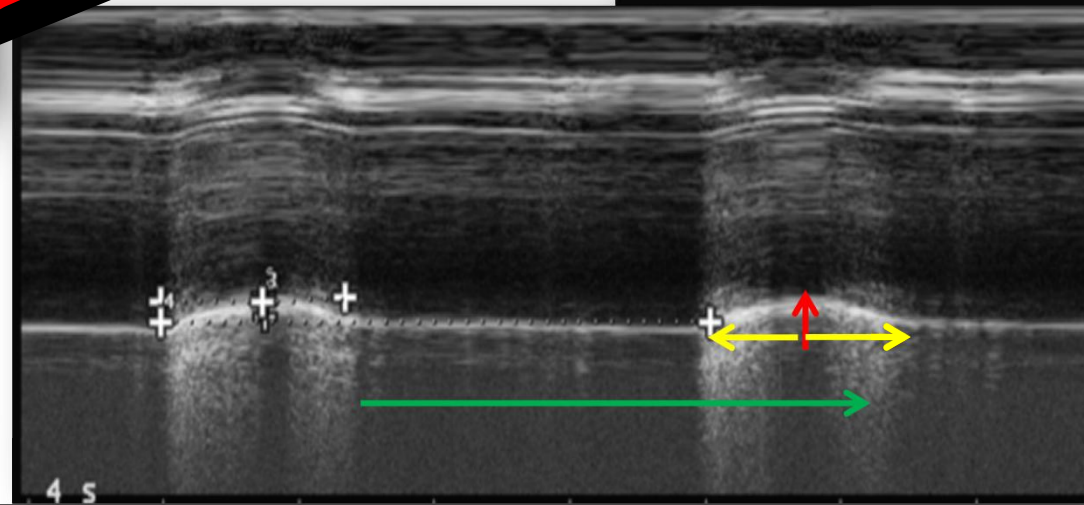
*Department of Emergency Medicine, A. Gemelli University Hospital, Rome, Italy; and [†]Operative Unit of Emergency Medicine, Castelnuovo Garfagnana Hospital, Lucca, Italy

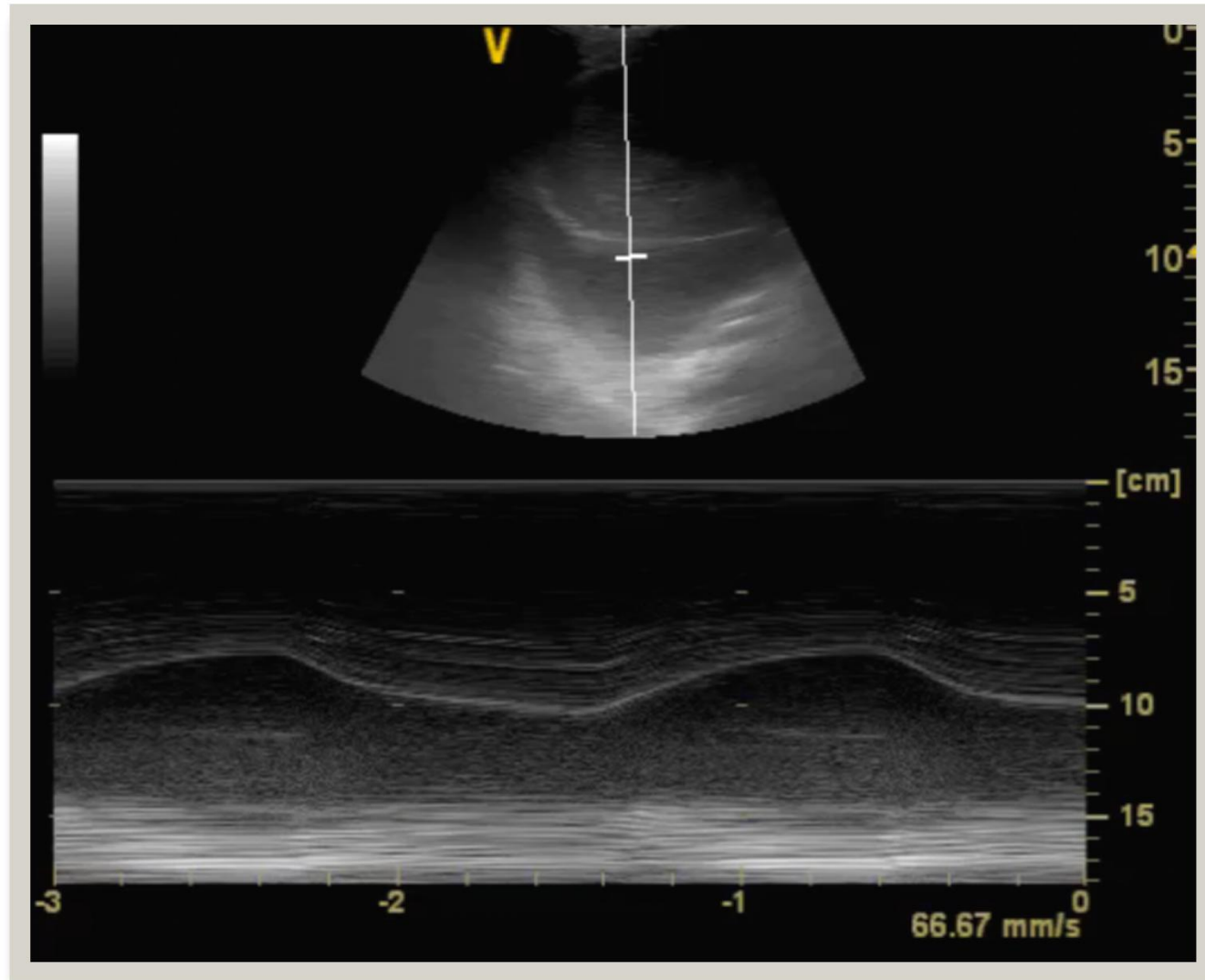
US in Med e Biol 2011
Vol 37 No1



VALUTAZIONE QUALITATIVA

E Ti
Te Ttot
Dome





Escursione diaframmatica sottocostale:

quiet	$m 1.8 \pm 0.3 \text{ cm}$	$-1.6 \pm 0.3 \text{ f}$
deep	$m 7 \pm 0.6$	$-5.7 \pm 0.1 \text{ f}$
sniffing	$m 2.9 \pm 0.6$	$-2.6 \pm 0.5 \text{ f}$

The evaluation of the effect of body positioning on intra-abdominal pressure measurement and the effect of intra-abdominal pressure at different body positioning on organ function and prognosis in critically ill patients

Min Yi PhD, Yuxin Leng PhD, Yu Bai MD, Gaiqi Yao PhD, Xi Zhu PhD*

Department of Intensive Care Medicine, Peking University Third Hospital, Beijing 100191, P. R. China

ARTERIOS CA430



ARTERIOS CA430

D1	22.3 mm
T2	426 ms
T3	356 ms
T4	2150 ms
T5	0 ms
D6	152.5 mm



90°



Incidence and clinical effects of intra-abdominal hypertension in critically ill patients

Maria Gabriela Vidal, MD; Javier Ruiz Weisser, MD; Francisco Gonzalez, MD; Maria America Toro, MD; Cecilia Loudet, MD; Carina Balasini, MD; Hector Canales, MD; Rosa Reina, MD; Elisa Estenssoro, MD

@saote MyLab
 BRADI, CMPDILATATIADISPEA,
 B F G G MAX
 TEI P 21 cm XV 1
 PRC 15-2-A PRS 3
 PST 2
 FACTORY CA430
 D1 2.43 cm
 T2 452 ms
 T3 350 ms
 T4 1704 ms
 D5 11.15 cm

E = 2.43cm

vs 1.71ms

Ti = 452ms

vs 515 ms

Te = 350ms

vs 318 ms

Ttot = 1704ms

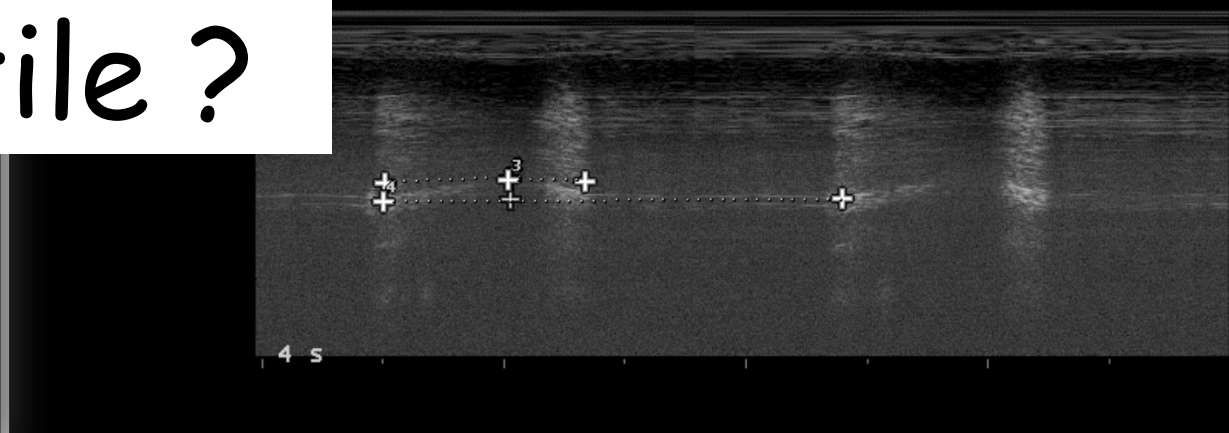
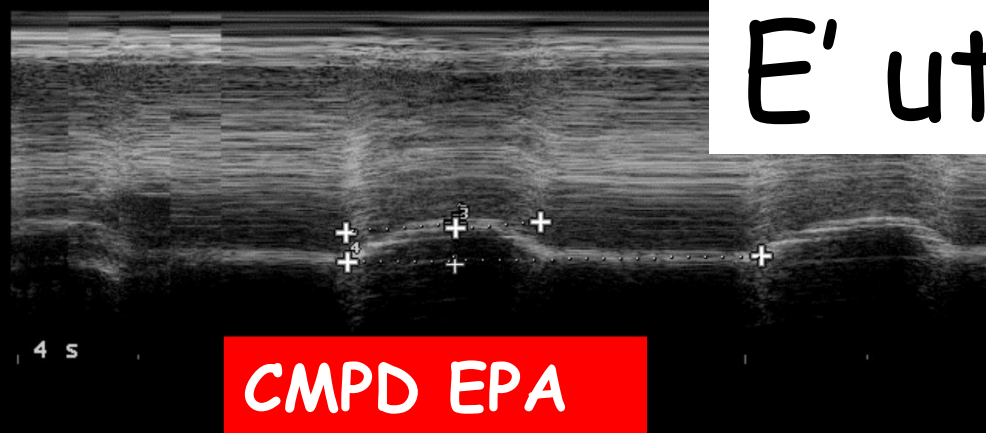
vs 1895 ms

Dome = 11.15cm

vs 13,28 cm

MAR 21 2012 05:01
 M G 97%
 PRC 15-2
 PST 2

E' utile ?



...1 hour later

E:	24mm	vs	15.7 mm
Ti:	452ms	vs	566 ms
Te:	178ms	vs	216 ms
Dome:	14,5cm	vs	14,4 cm
Ttot:	1596 ms	vs	3002 ms

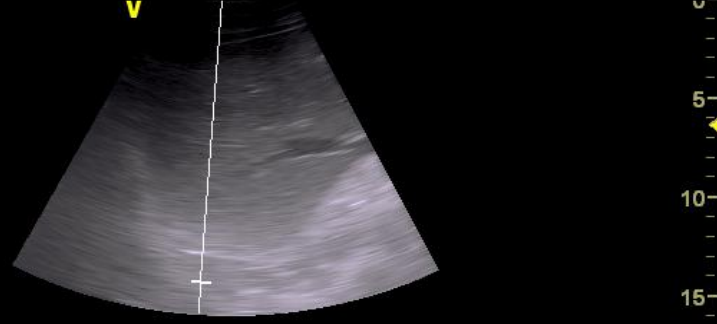
E' utile ?

pH	7.28
pCO ₂	91
pO ₂	84
HCO ₃	39.9
Lact	1.9
RR	28

pH	7.35
pCO ₂	55
pO ₂	83
HCO ₃	35
Lact	0.4
RR	18

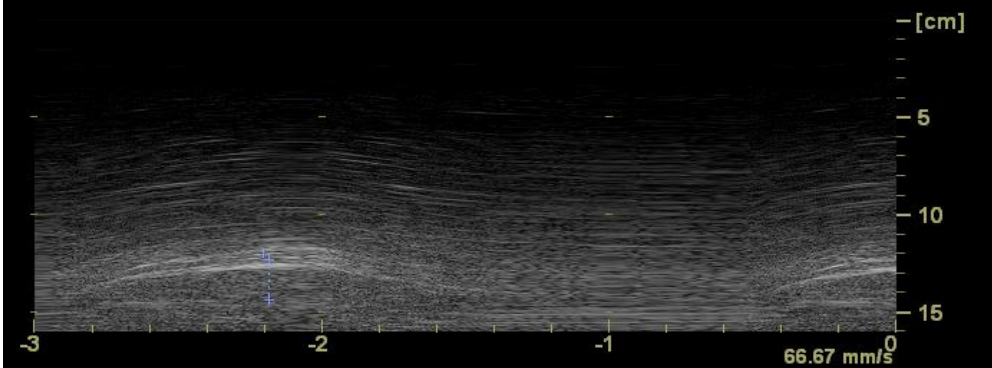
NIV PSV ST
IPAP 18
EPAP 6
O₂ 3L/min

1 d1 2.06 cm



5
10
15

[cm]



66.67 mm/s

1 d1 0.93 cm

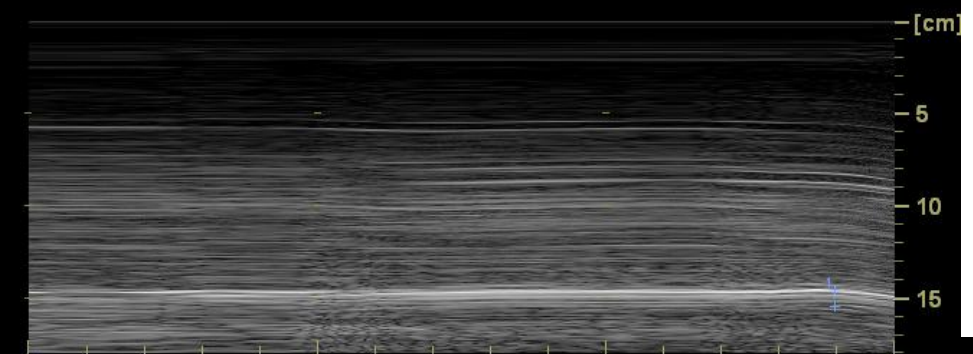


dxin niv



5
10
15

[cm]



66.67 mm/s

noniv



5
10
15

[cm]

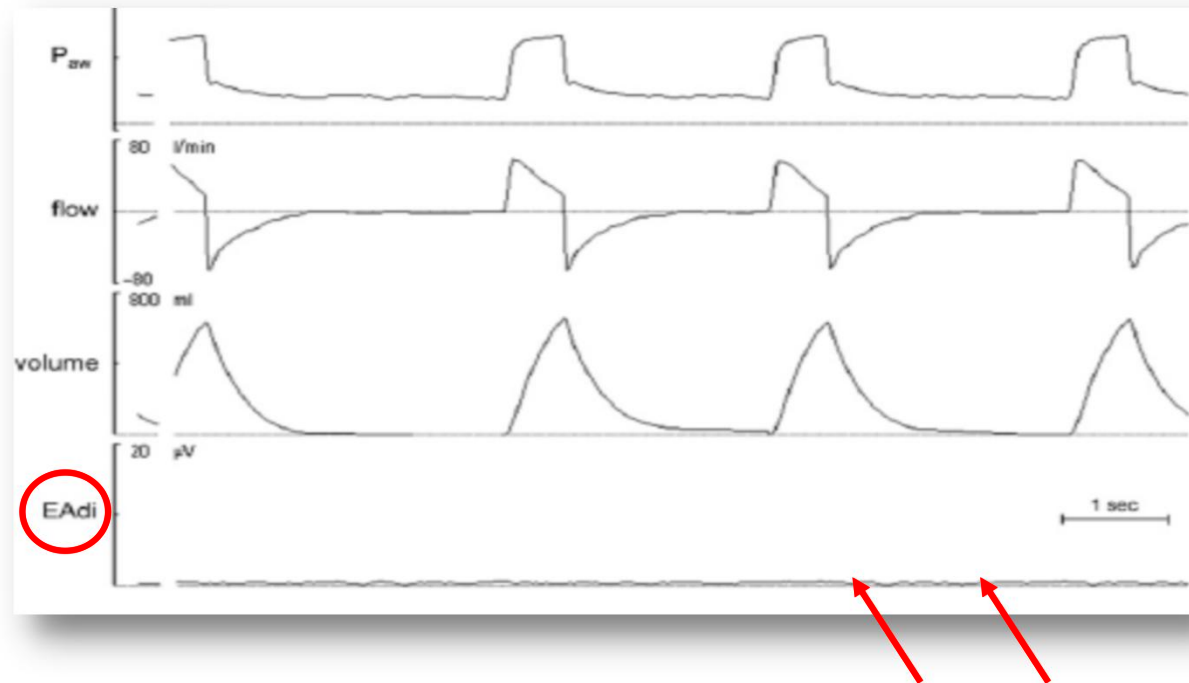


Critical Care Perspective

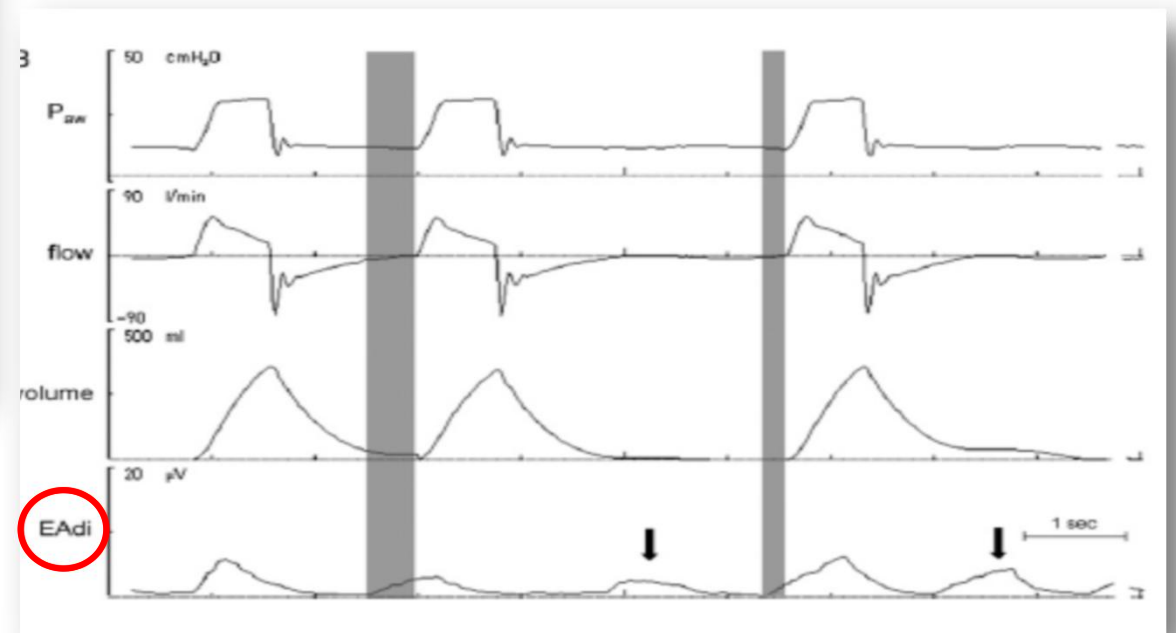
Monitoring of the Respiratory Muscles in the Critically Ill

Jonne Doorduyn¹, Hieronymus W. H. van Hees², Johannes G. van der Hoeven¹, and Leo M. A. Heunks¹

¹Department of Critical Care Medicine and ²Department of Pulmonary Medicine, Radboud University Nijmegen Medical Centre, the Netherlands



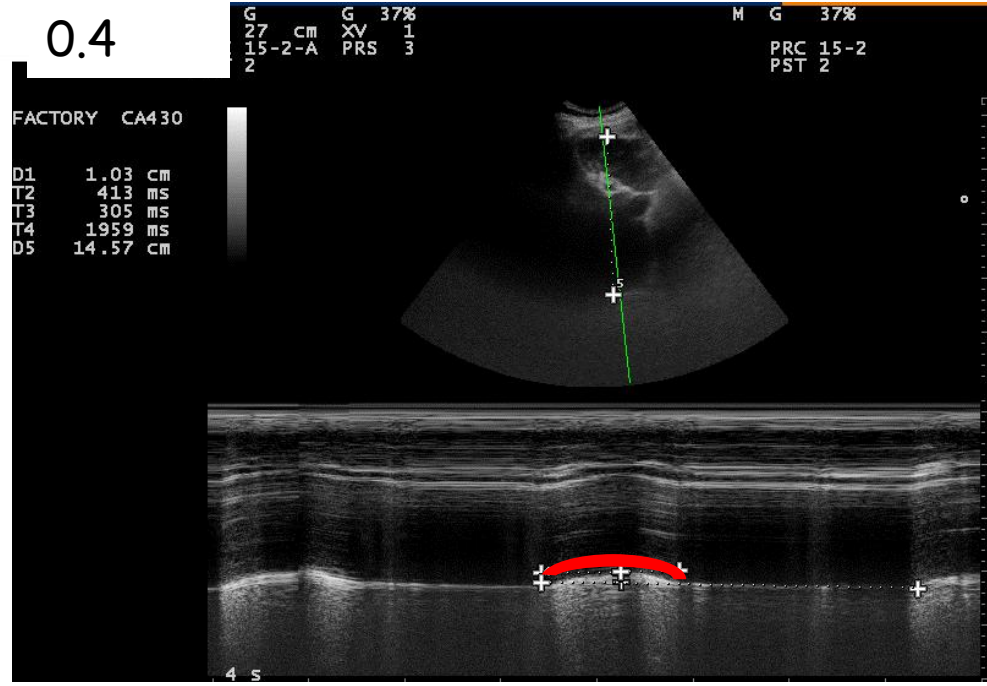
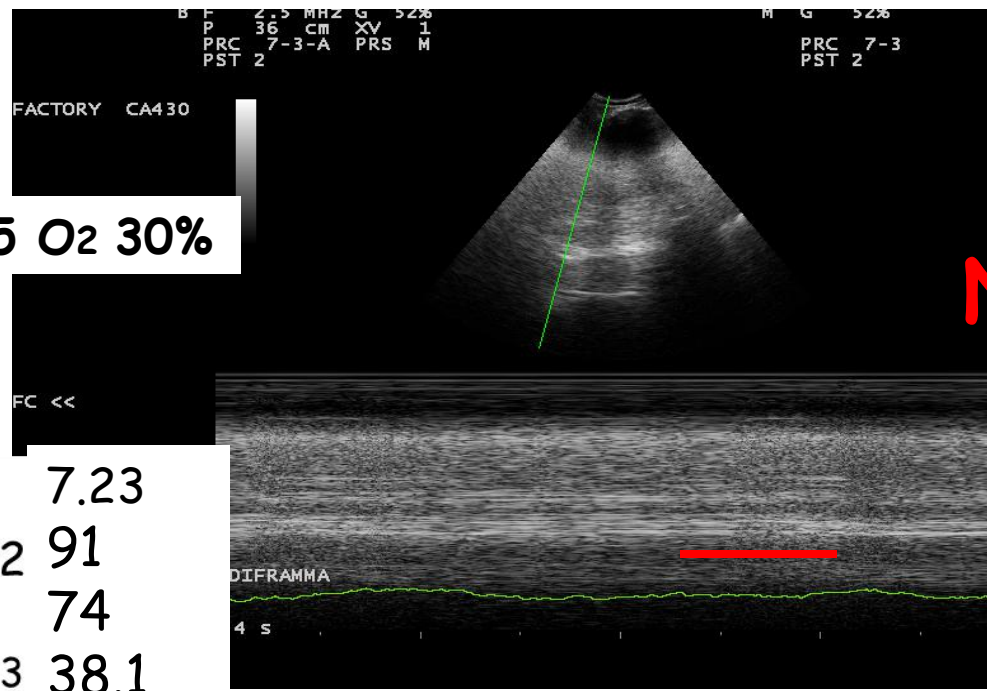
Noi possiamo !



RR 35 O2 30%

pH 7.23
pCO2 91
pO2 74
HCO3 38.1
Lact 0.4

NIV



Noi possiamo !



Trig I ↑

pH 7.32
pCO2 73
pO2 76
HCO3 37.1
Lact 0.7

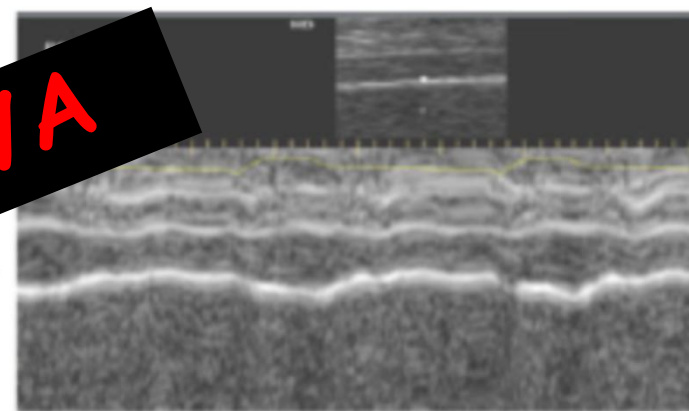
1 hour later.. O2 30%

Emmanuel Vivier
Armand Mekontso Dessap
Saoussen Dimassi
Frederic Vargas
Aissam Lyazidi
Arnaud W. Thille
Laurent Brochard

Diaphragm ultrasonography to estimate the work of breathing during non-invasive ventilation

$$TF = (TEI - TEE) / TEE$$

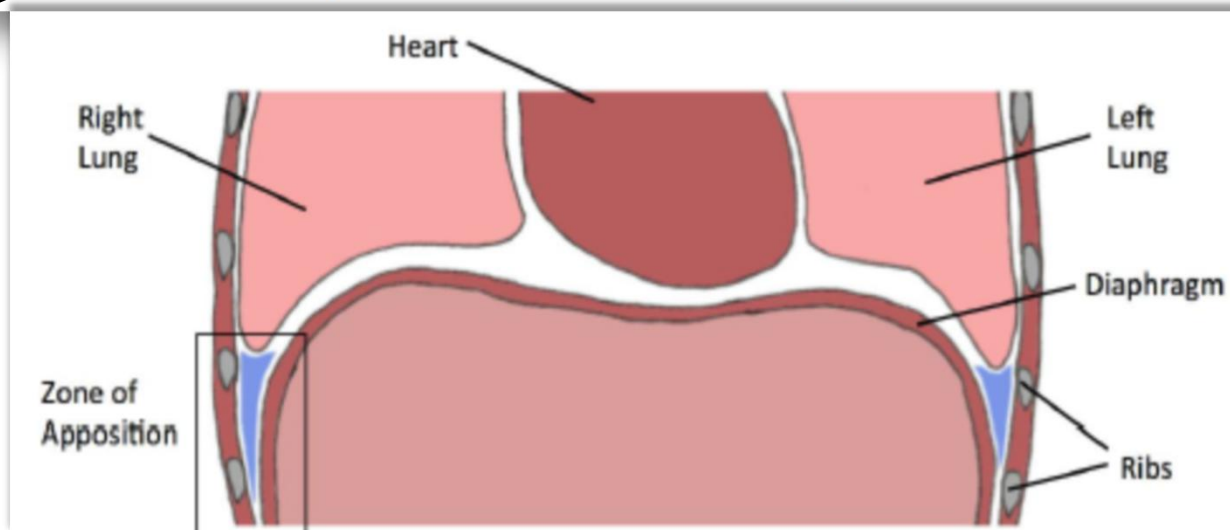
Airway pressure



Thickness at end inspiration; TEE, thickness at end expiration.



VALUTAZIONE QUANTITATIVA



[Intensive Care Med.](#) 2015 Apr;41(4):734

Measuring diaphragm thickness with ultrasound in mechanically ventilated patients: feasibility, reproducibility and validity.



Ferrari et al. *Critical Ultrasound Journal* 2014, 6:8
<http://www.criticalultrasoundjournal.com/content/6/1/8>

 **Critical Ultrasound Journal**
a SpringerOpen Journal

ORIGINAL ARTICLE

Open Access

Diaphragm ultrasound as a new index of discontinuation from mechanical ventilation

Giovanni Ferrari^{1*}, Giovanna De Filippi¹, Fabrizio Elia¹, Francesco Panero¹, Giovanni Volpicelli² and Franco Aprà¹

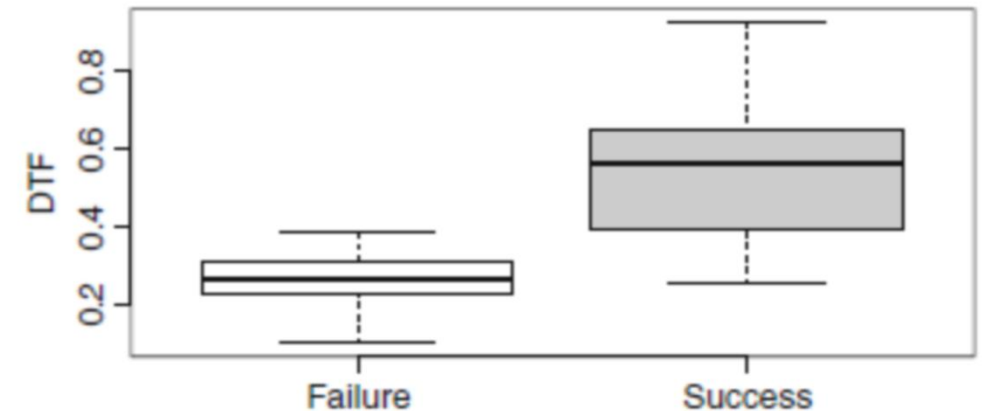
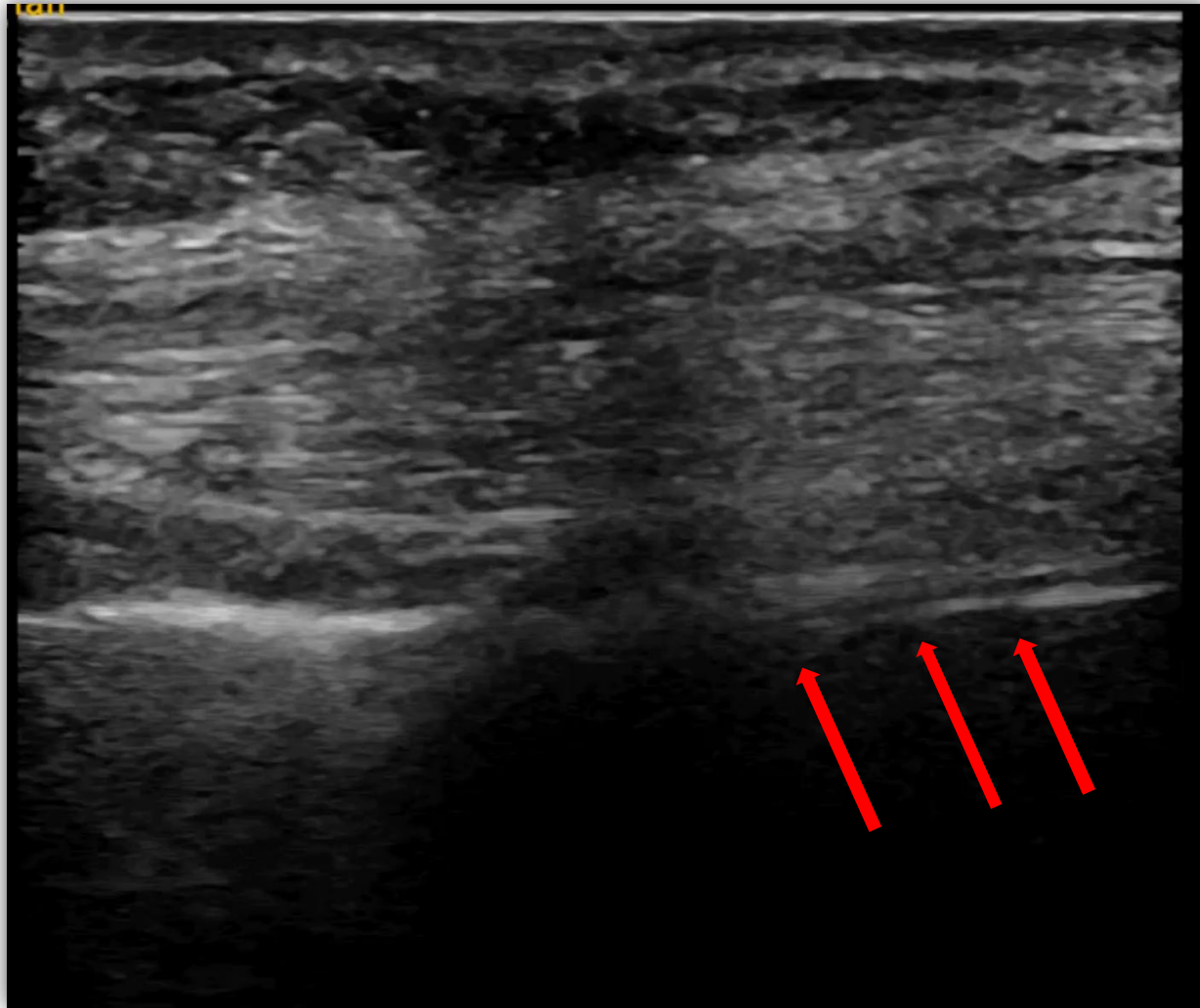
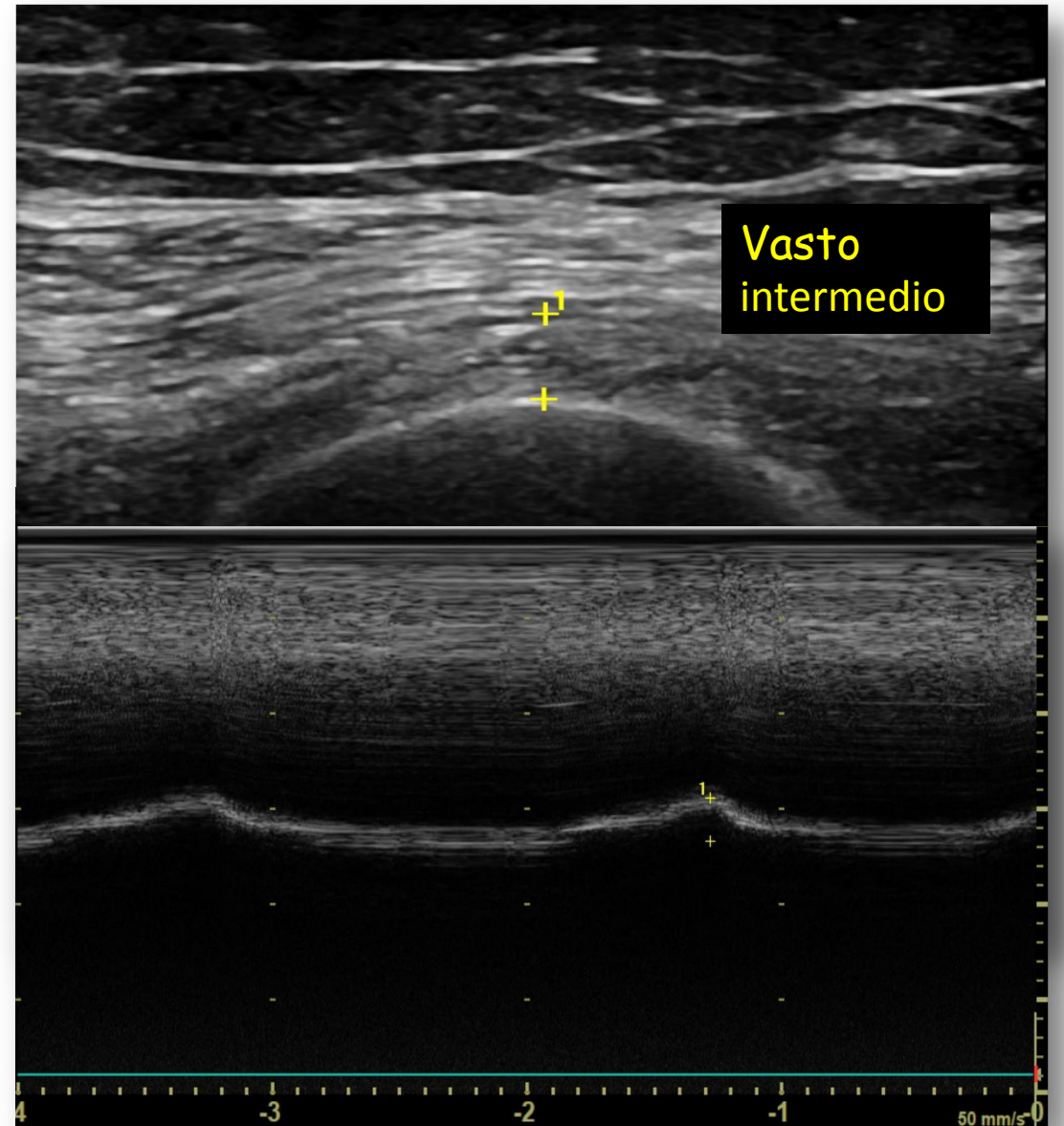


Figure 2 Diaphragm thickening fraction (DTF) in patients who failed and succeeded the spontaneous breathing trial. Boxplot

SEPSI buona risposta ad inotropi



La paziente morì dopo 6 ore



Diaphragmatic ultrasound as a predictor of successful extubation from mechanical ventilation: thickness, displacement, or both?

Ayman I. Baess¹, Tamer H. Abdallah², Doaa M. Emara³, Maged Hassan¹

Conclusion Sonographically measured TDI performed better than displacement in predicting value for weaning outcome. In a respiratory ICU, however, the RSBI seems to be a more reliable and accurate tool for the purpose and should be considered in every weaning protocol. Whether TDI can be

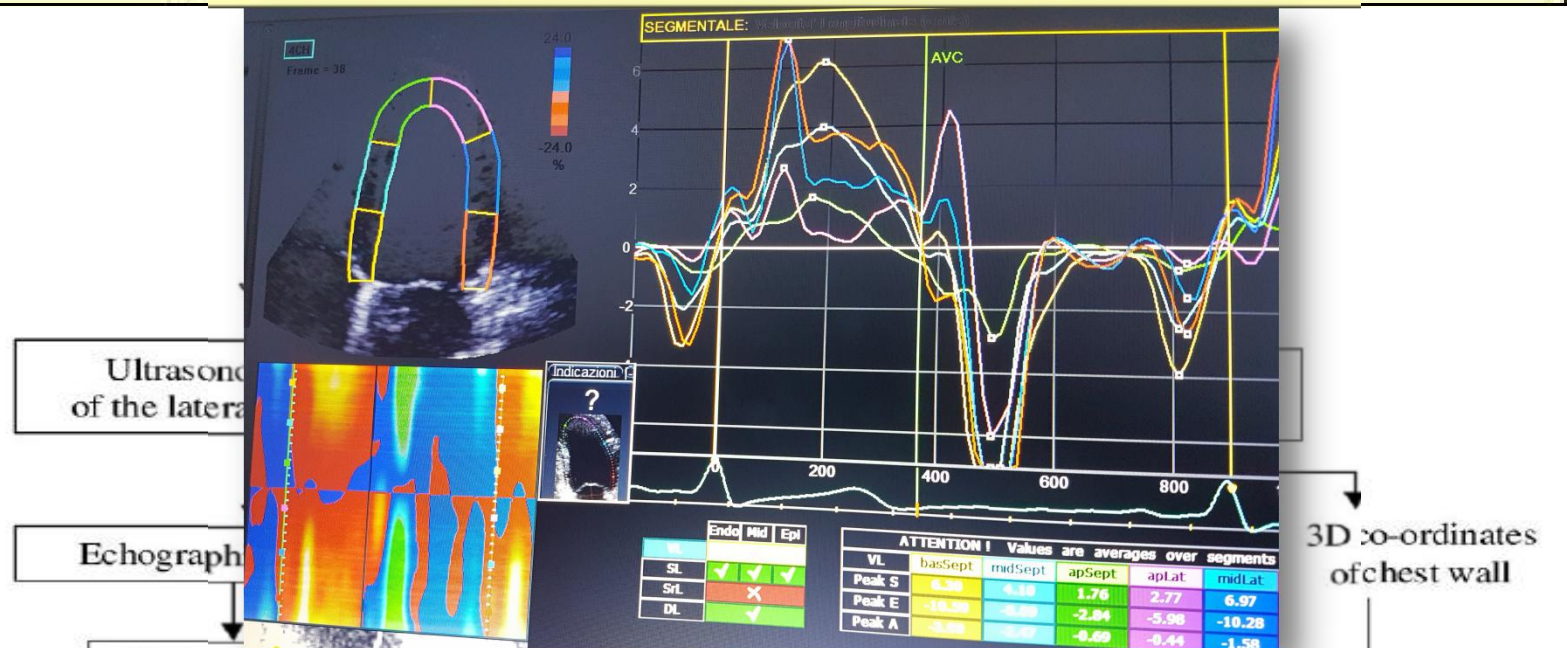
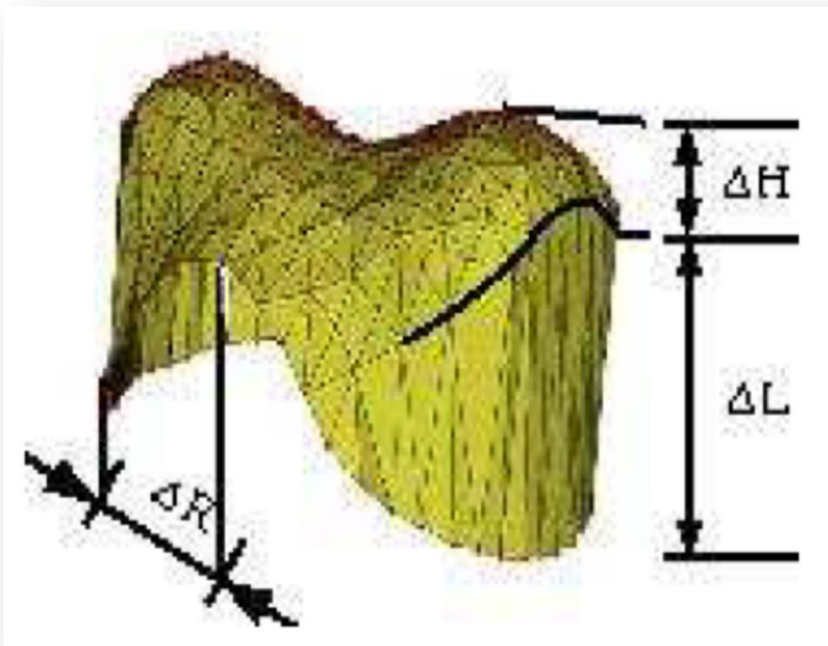
Nuove frontiere...

Chest wall kinematic determinants of diaphragm length by optoelectronic plethysmography and ultrasonography

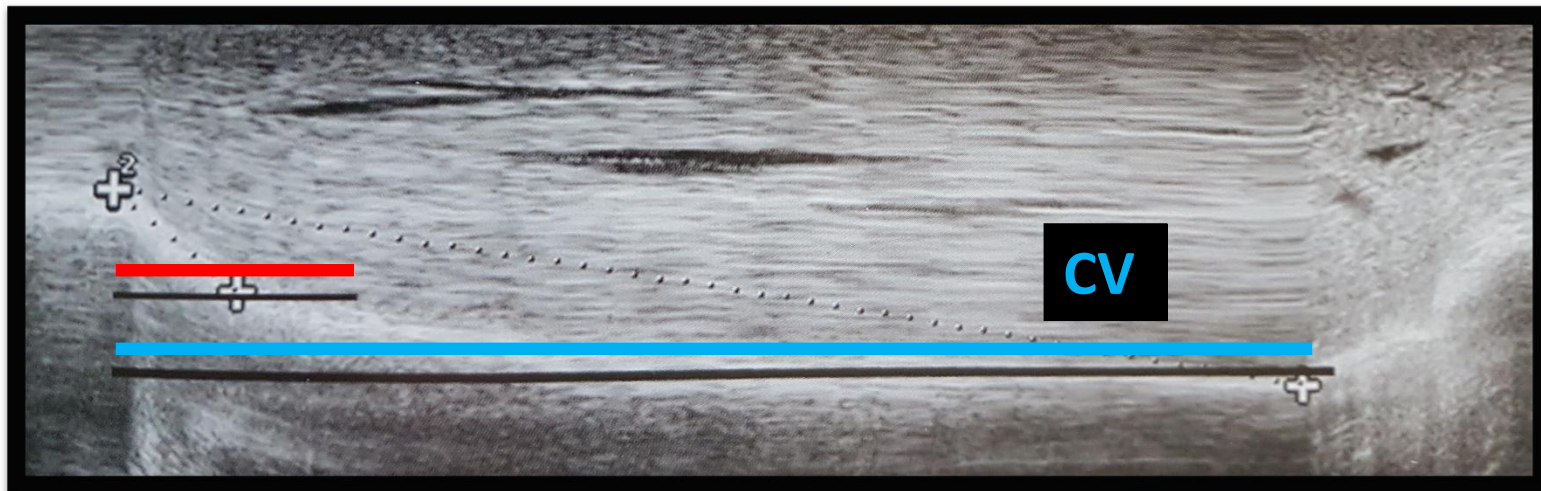
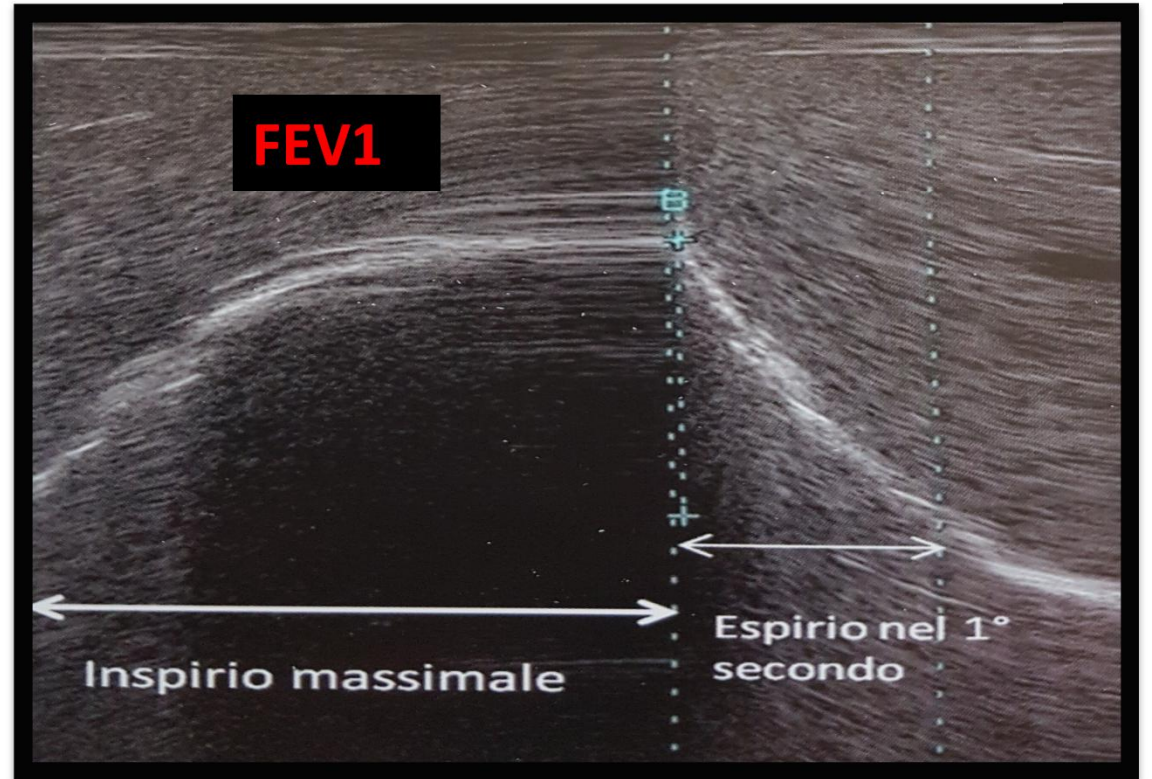
A. Aliverti, G. Ghidoli, R. L. Dellacà, A. Pedotti and P. T. Macklem

J Appl Physiol 94:621-630, 2003. First published 4 October 2002;

doi: 10.1152/jappphysiol.00329.2002

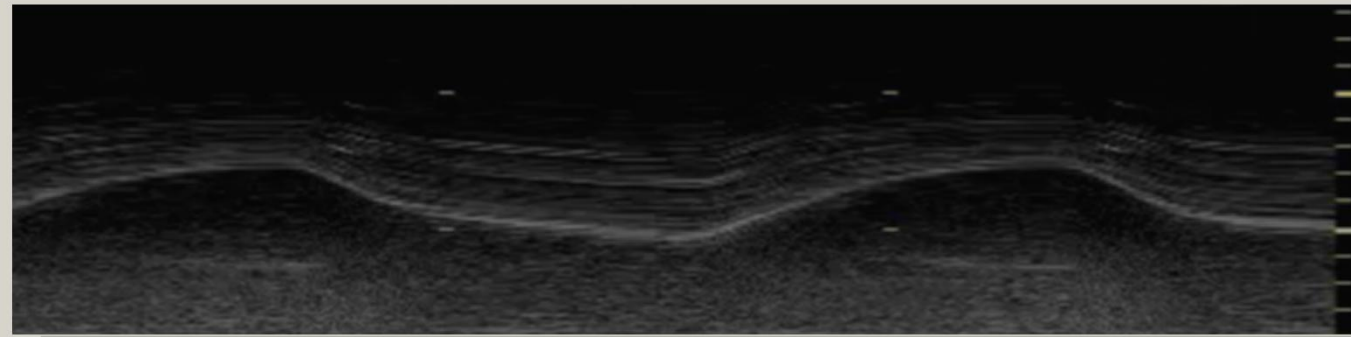


Nuove frontiere...



MIO
<77% OS

D-day Naples 2019



1° comparing experiences

SAVE THE DATE

I hope !



