

Dispnea acuta e P-SILI.

Quando il paziente si fa del male



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Genova , 30.5.24



Ospedale
di Bergamo



Regione
Lombardia

ASST Papa Giovanni XXIII

@rob_cosentini

References



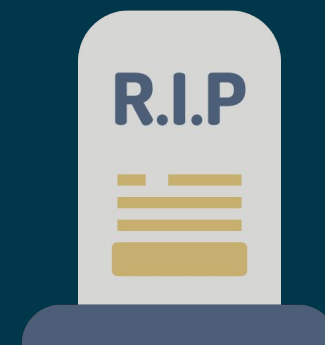
NIV in Pneumonia

↓ ETI



0.46 0.26–0.79

↓ ICU Mortality



0.30 0.09–0.93

1. Alda, 75 ys

pH 7.47

pCO₂ 29

pO₂ 53

HCO₃ 21

SpO₂ 87%

FiO₂ 40%

RR 32

O₂
12 L/min



I. Alda, 55 ys

CPAP

pH 7.47
pCO₂ 29
pO₂ 53
HCO₃ 21
SpO₂ 87%
FiO₂ 40%

RR 32



PEEP = 5



pH 7.43
pCO₂ 32
pO₂ 79
HCO₃ 21
SpO₂ 95%
FiO₂ 40%

RR 26

2. Grazia, 65 ys

CPAP



pH 7.45
pCO₂ 30
pO₂ 56
HCO₃ 21
SpO₂ 88%
FiO₂ 40%

RR 28



PEEP = 7

pH 7.48
pCO₂ 28
pO₂
HCO₃ 21
SpO₂ 95%
FiO₂ 40%

RR 29

2. Grazia, 65 ys

CPAP



pH 7.45
pCO₂ 30
pO₂ 56
HCO₃ 21
SpO₂ 88%
FiO₂ 40%

RR 28



PEEP = 7



pH 7.48
pCO₂ 28
pO₂ 80
HCO₃ 21
SpO₂ 95%
FiO₂ 40%

RR

RESPIRATORY

EFFORT

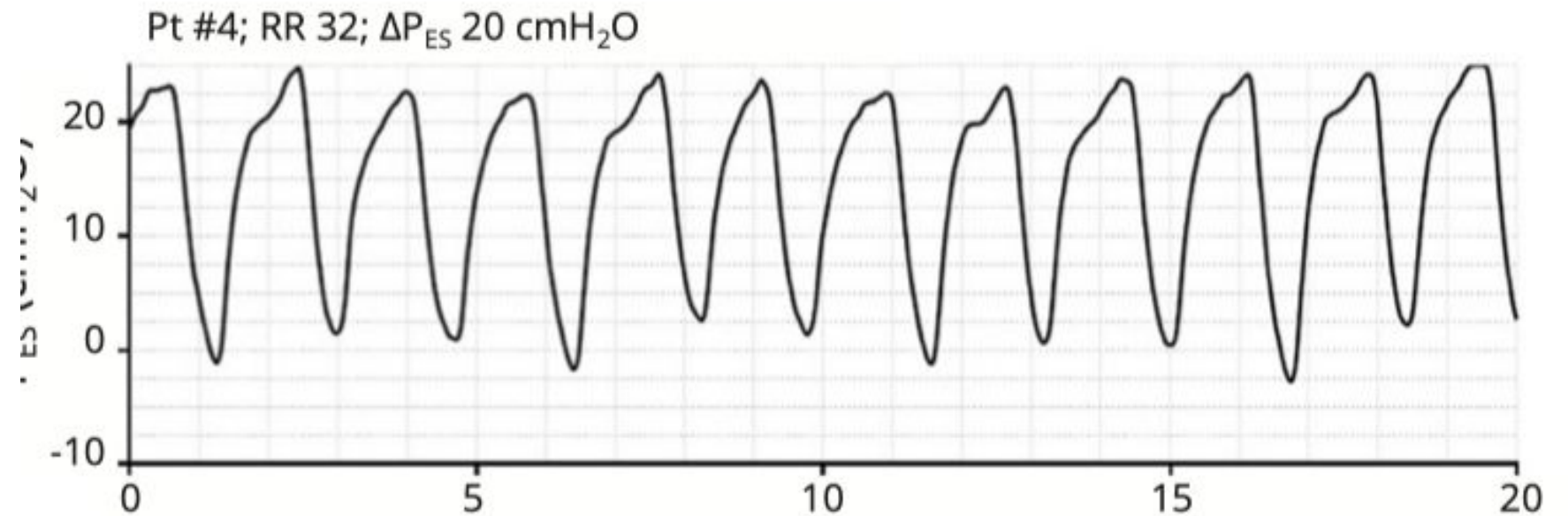


2. Grazia, 65 ys



pH 7.48
pCO₂ 28
pO₂ 80
HCO₃ 21
SpO₂ 95%
FiO₂ 40%

RR 29



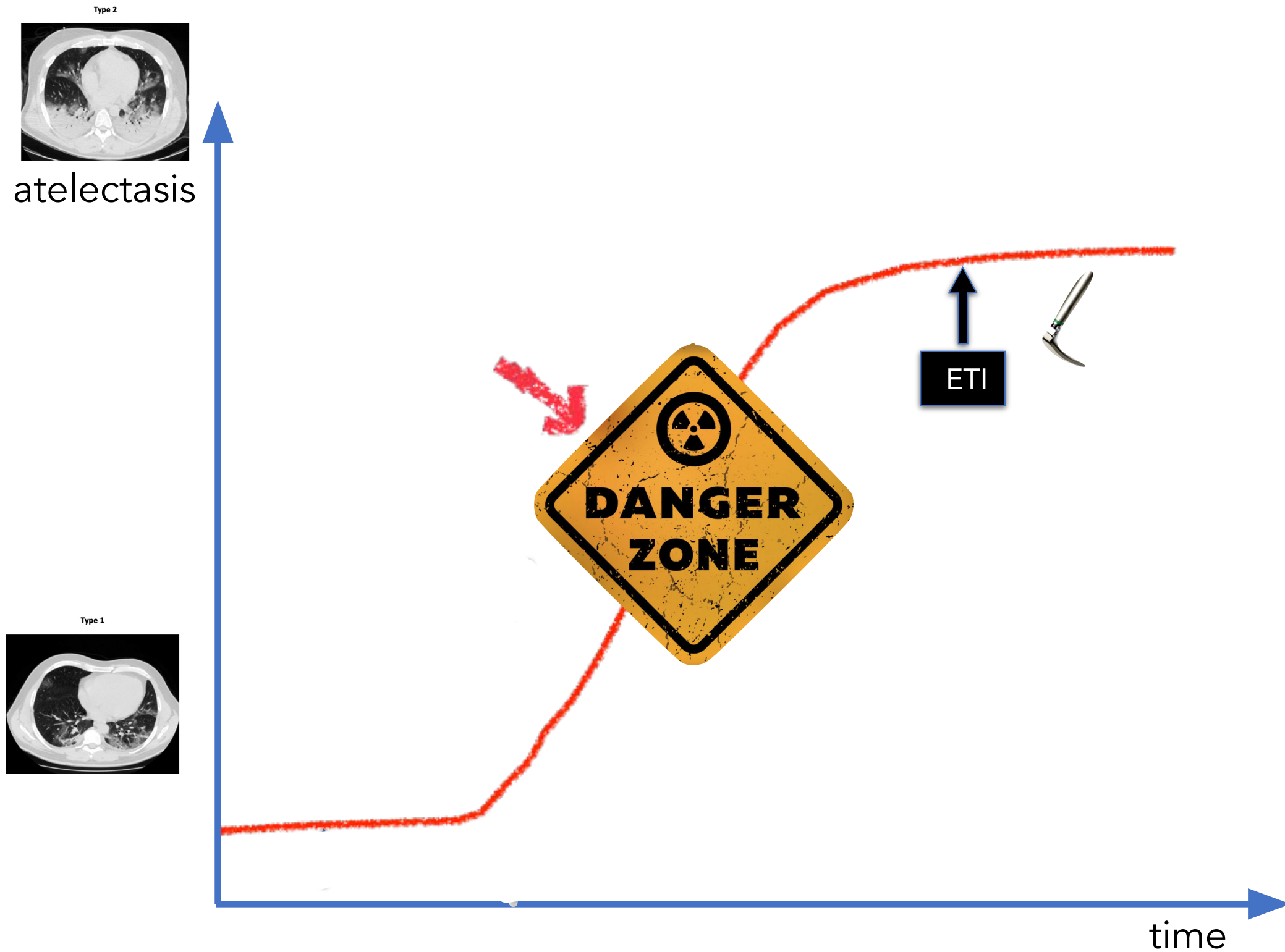
↑ Tpulm
Press

↑ Lung Injury

↑ Vascular
Leakage

patient-SIL
T

Hypoxemia according to atelectasis

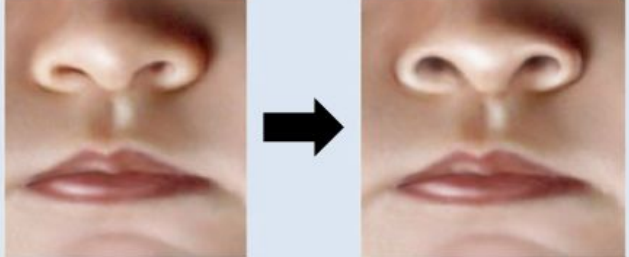
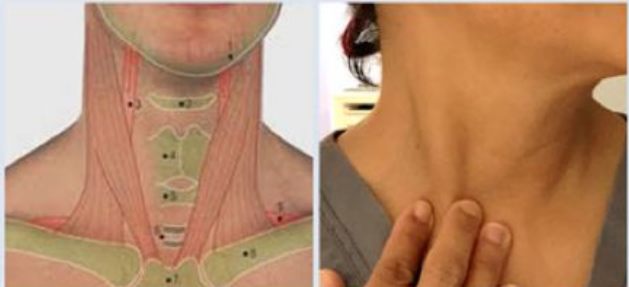


RESEARCH LETTER

Open Access

Development of a work of breathing scale
 and monitoring need of intubation in
 COVID-19 pneumonia



ELEMENT	METHOD	POINTS
 Respiratory Rate	By Counting (bpm)	$\leq 20 = 1$ $21-25 = 2$ $26-30 = 3$ $> 30 = 4$
 Nasal Flaring (inspiration)	By Observation	1
 Sternocleidomastoid Use (inspiration)	By Palpation	1
 Abdominal Muscles Use (expiration)	By Palpation	1



Breathing Cost

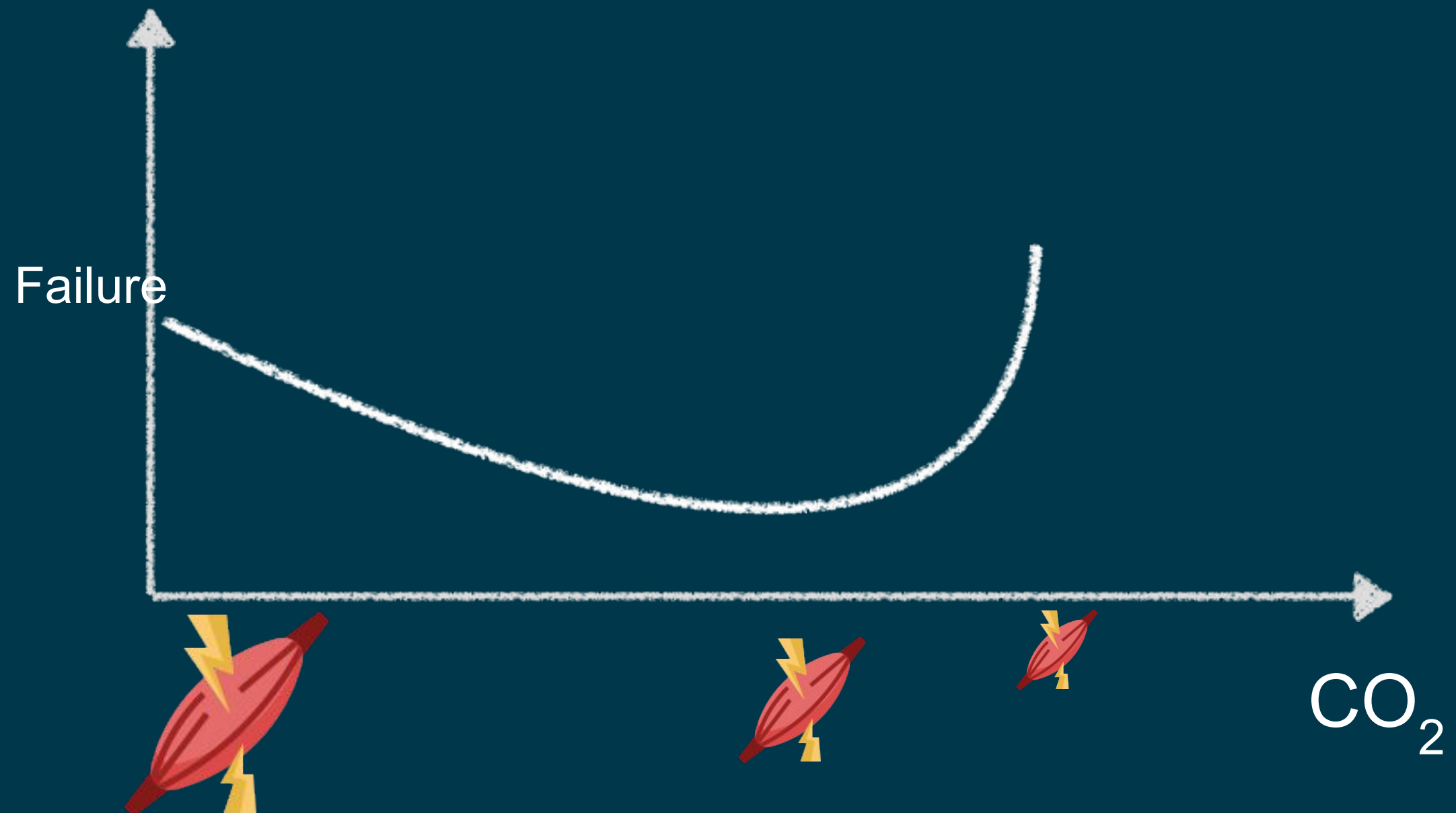


P/F - ROX Index

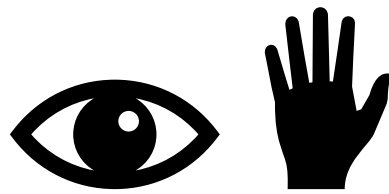


WOB

Breathing Cost



monitor WOB



Apigo et al. *Critical Care* (2020) 24:477
<https://doi.org/10.1186/s13054-020-03176-y>

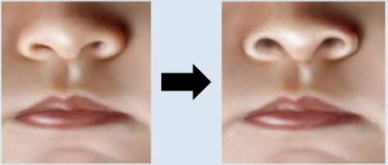
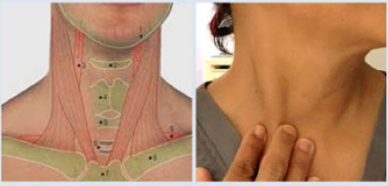
Critical Care

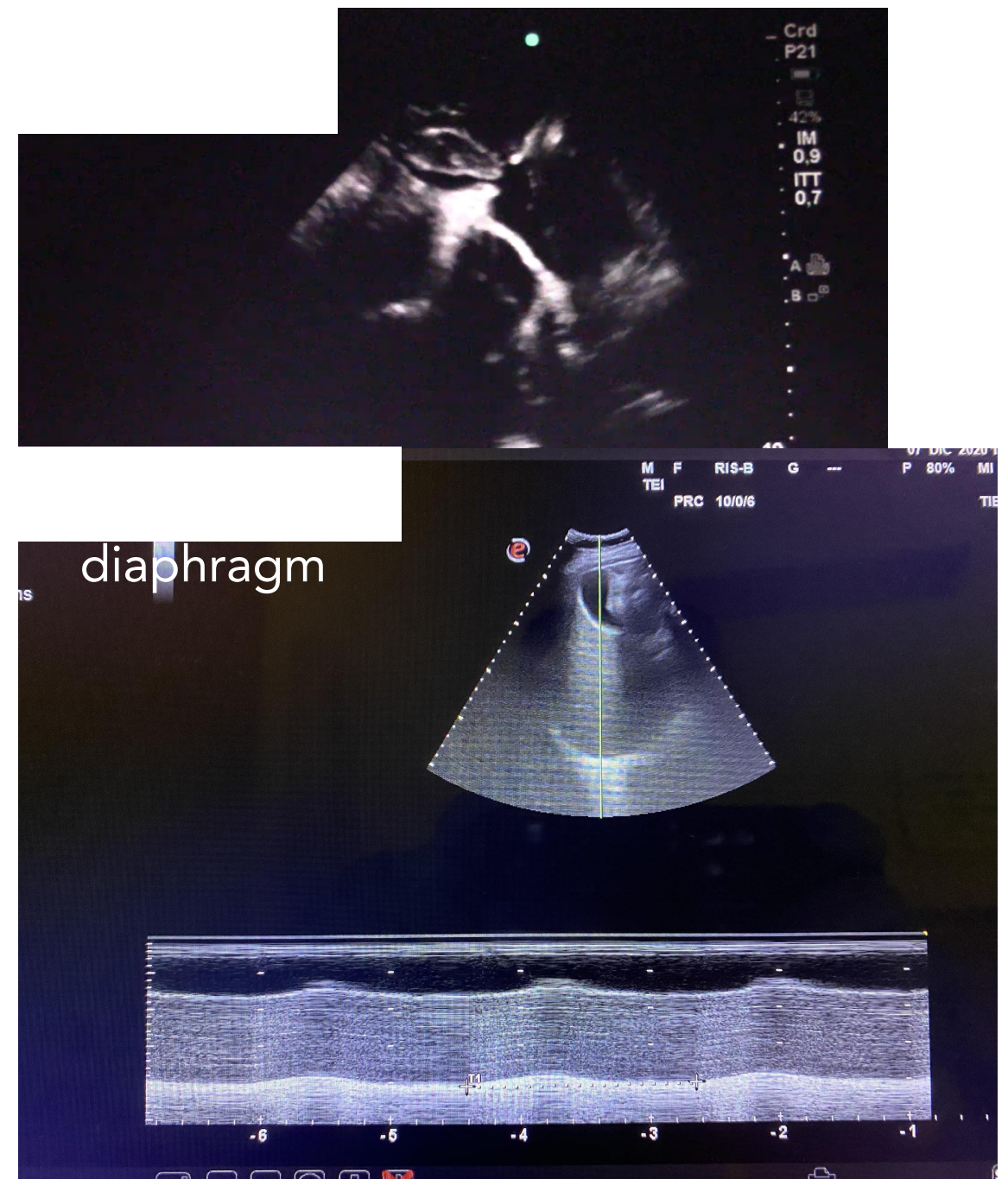
RESEARCH LETTER

Open Access

Development of a work of breathing scale and monitoring need of intubation in COVID-19 pneumonia



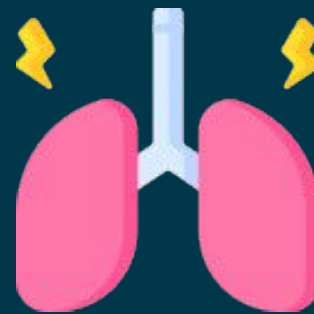
ELEMENT	METHOD	POINTS
 Respiratory Rate	By Counting (bpm)	$\leq 20 = 1$ $21-25 = 2$ $26-30 = 3$ $> 30 = 4$
 Nasal Flaring (inspiration)	By Observation	1
 Sternocleidomastoid Use (inspiration)	By Palpation	1
 Abdominal Muscles Use (expiration)	By Palpation	1



P-SILI_Clinical



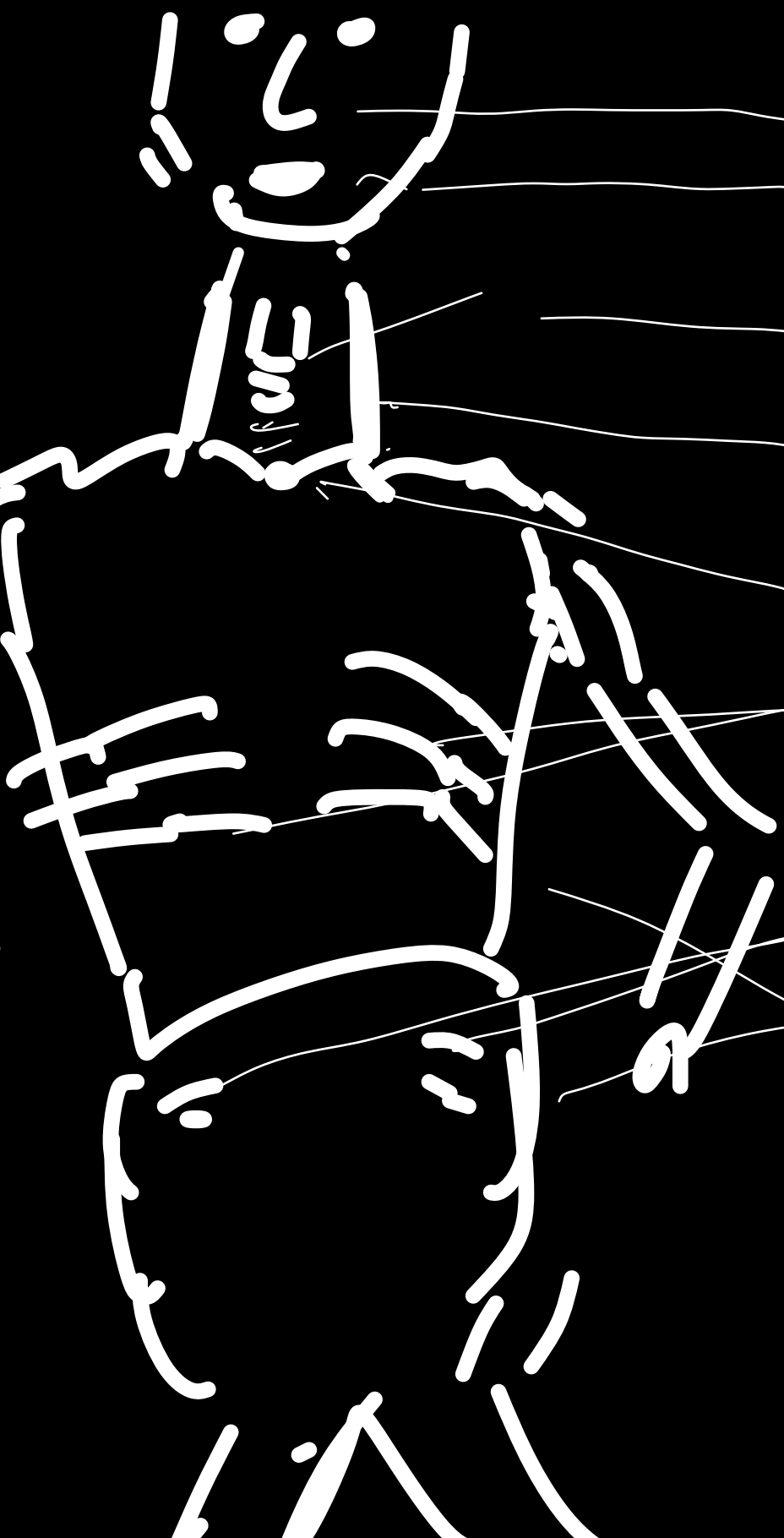
↑RR



Deep Breaths



Anxiety



Nasal flaring
pursed lips

tracheal tube

sternocleid

jugular notch

intercostal

abdominal

paradox

in exp

in

exp.

in

in

in

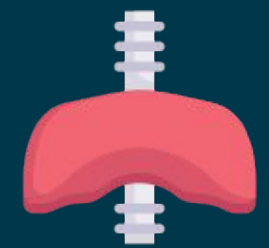
in

exp

in/exp



P-SILI_Instrumental



↓ CO₂

↑ IVC Excursion

↑ Diaphragm

Diario

clinico

RAPIDPoint® 500

CAMPIONE ARTERIOSO

16.01.2017 06:40

Nome sistema P. Soc. 1

ID sistema 0500-31962

Cognome ~~XXXXXXXXXX~~

Operatore 1962

ACIDO-BASE 37.0 °C

pH	7.295	
pCO ₂	75.2	mmHg
pO ₂	52.3	mmHg
HCO ₃ ⁻ act	35.8	mmol/L
HCO ₃ ⁻ std	30.2	mmol/L
BE(B)	6.7	mmol/L
BE(ecf)	9.3	mmol/L
ctCO ₂	38.1	mmol/L

CO-OSSIMETRIA

Hct	38	%
tHb	12.9	g/dL
sO ₂	81.7	%
FO ₂ Hb	81.0	%
FCOHb	0.9	%
FMetHb	0.0	%
FHHb	18.1	%

OSSIGENAZIONE 37.0 °C

BO ₂	17.8	mL/dL
p50	26.3	mmHg
ctO ₂ (a)	14.7	mL/dL

ELETTROLITI

Na ⁺	137.5	mmol/L
K ⁺	3.84	mmol/L
Ca ⁺⁺	1.16	mmol/L
Ca ⁺⁺ (7.4)	1.11	mmol/L
Cl ⁻	93	mmol/L

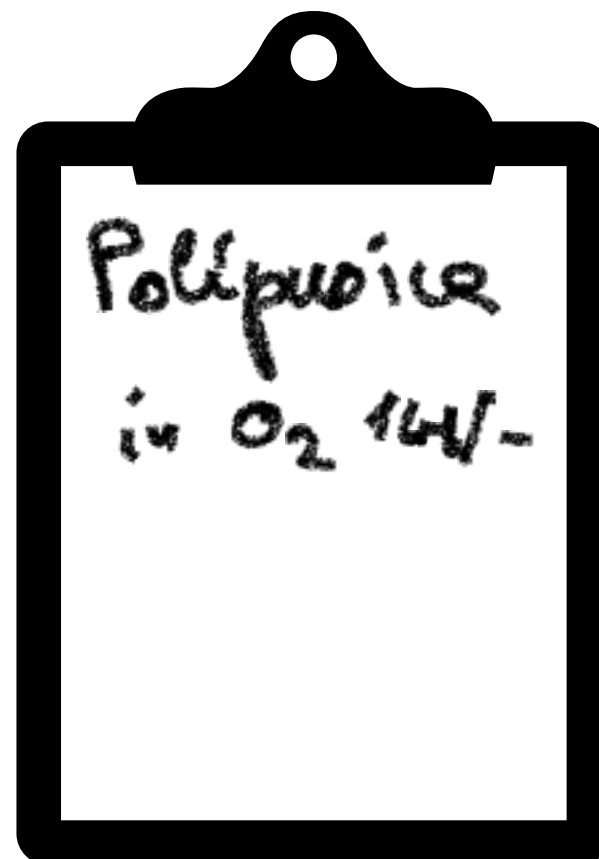
METABOLITI

Glu	126	mg/dL
Lac	0.94	mmol/L

1. Grazia



2. Alda



1. Grazia

RR 32

Polipnoica
CPAP



Polipnoica
prosegue CPAP

2. Alda

RR 28

Polipnoica
in CPAP

Polipnoica
sempre in CPAP

Se l'emogas è da fare

L'FR è da seguire.

@rob_cosentini

Se l'emogas è da fare

L'FR è da seguire.

Senza FR seguita lassù

i malati non la meritano più!

@rob_cosentini

RAPIDPoint® 500

CAMPIONE ARTERIOSO

16.01.2017 06:40

Nome sistema P. Soc. 1

ID sistema 0500-31962

Cognome CROTTI

Operatore 1962

ACIDO-BASE 37.0 °C
pH 7.295
pCO₂ 75.2 mmHg
pO₂ 52.3 mmHg
HCO₃⁻act 35.8 mmol/L
HCO₃⁻std 30.2 mmol/L
BE(B) 6.7 mmol/L
BE(ecf) 9.3 mmol/L
ctCO₂ 38.1 mmol/L

CO-OSSIMETRIA
Hct 38 %
tHb 12.9 g/dL
sO₂ 81.7 %
FO₂Hb 81.0 %
FCOHb 0.9 %
FMetHb 0.0 %
FHHb 18.1 %

OSSIGENAZIONE 37.0 °C
BO₂ 17.8 mL/dL
p50 26.3 mmHg
ctO₂(a) 14.7 mL/dL

ELETTROLITI
Na⁺ 137.5 mmol/L
K⁺ 3.84 mmol/L
Ca⁺⁺ 1.16 mmol/L
Ca⁺⁺(7.4) 1.11 mmol/L
Cl⁻ 93 mmol/L

METABOLITI
Glu 126 mg/dL
Lac 0.94 mmol/L

RAPIDPoint® 500

CAMPIONE ARTERIOSO

16.01.2017 07:32

Nome sistema P. Soc. 1

ID sistema 0500-31962

Cognome CROTTI

Operatore 1962

ACIDO-BASE 37.0 °C
pH 7.311
pCO₂ 73.4 mmHg
pO₂ 110.9 mmHg
HCO₃⁻act 36.2 mmol/L
HCO₃⁻std 31.3 mmol/L
BE(B) 7.5 mmol/L
BE(ecf) 10.0 mmol/L
ctCO₂ 38.5 mmol/L

CO-OSSIMETRIA
Hct 37 %
tHb 12.6 g/dL
sO₂ 96.8 %
FO₂Hb 96.3 %
FCOHb 0.4 %
FMetHb 0.1 %
FHHb 3.2 %

OSSIGENAZIONE 37.0 °C
BO₂ 17.4 mL/dL
pO₂/F₁O₂ 2.22 mmHg/%
ctO₂(a) 17.2 mL/dL

ELETTROLITI
Na⁺ 136.8 mmol/L
K⁺ 3.94 mmol/L
Ca⁺⁺ 1.16 mmol/L
Ca⁺⁺(7.4) 1.12 mmol/L
Cl⁻ 93 mmol/L

METABOLITI
Glu 121 mg/dL
Lac 0.98 mmol/L

F₁O₂ 50.0 %

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CAMPIONE ARTERIOSO

16.01.2017 08:29

Nome sistema P. Soc. 1

ID sistema 0500-31962

Cognome CROTTI

Operatore 7954

ACIDO-BASE 37.0 °C
pH 7.353
pCO₂ 75.6 mmHg
pO₂ 79.2 mmHg
HCO₃⁻act 41.1 mmol/L
HCO₃⁻std 36.1 mmol/L
BE(B) 12.4 mmol/L
BE(ecf) 15.5 mmol/L
ctCO₂ 43.4 mmol/L

CO-OSSIMETRIA
Hct 38 %
tHb 12.8 g/dL
sO₂ 94.4 %
FO₂Hb 93.4 %
FCOHb 0.8 %
FMetHb 0.3 %
FHHb 5.5 %

OSSIGENAZIONE 37.0 °C
BO₂ 17.6 mL/dL
ctO₂(a) 16.9 mL/dL

ELETTROLITI
Na⁺ 140.4 mmol/L
K⁺ 4.20 mmol/L
Ca⁺⁺ 1.16 mmol/L
Ca⁺⁺(7.4) 1.14 mmol/L
Cl⁻ 93 mmol/L

METABOLITI
Glu 129 mg/dL
Lac 1.25 mmol/L

F₁O₂ = 40.0 %

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CAMPIONE ARTERIOSO

16.01.2017 11:12

Nome sistema P. Soc. 2

ID sistema 0500-34943

Cognome crotti

Operatore 10122

ACIDO-BASE 37.0 °C
pH 7.360
pCO₂ 71.7 mmHg
pO₂ 79.0 mmHg
HCO₃⁻act 39.6 mmol/L
HCO₃⁻std 34.5 mmol/L
BE(B) 10.8 mmol/L
BE(ecf) 14.1 mmol/L
ctCO₂ 41.8 mmol/L

OSSIGENAZIONE 37.0 °C
O₂SAT(est) 94.7 %

ELETTROLITI
Na⁺ 138.3 mmol/L
K⁺ 3.92 mmol/L
Ca⁺⁺ 1.16 mmol/L
Ca⁺⁺(7.4) 1.14 mmol/L
Cl⁻ 92 mmol/L

METABOLITI
Glu 130 mg/dL
Lac 1.46 mmol/L



SI PUÒ
FARE

