Correction

Correction: Nitrogen washout/washin, helium dilution and computed tomography in the assessment of end expiratory lung volume

Davide Chiumello[1], Massimo Cressoni[2], Monica Chierichetti[2], Federica Tallarini[2], Marco Botticelli[2], Virna Berto[2], Cristina Mietto[2] and Luciano Gattinoni[1,2]

[1]Dipartimento di Anestesia, Rianimazione (Intensiva e Subintensiva) e Terapia del Dolore, Fondazione IRCCS – "Ospedale Maggiore Policlinico Mangiagalli Regina Elena", via Francesco Sforza 35, 20122, Milano, Italy
[2]Istituto di Anestesiologia e Rianimazione, Fondazione IRCCS – "Ospedale Maggiore Policlinico Mangiagalli Regina Elena" di Milano, Italy; Università degli Studi di Milano, via Festa del Perdono 7, 20122, Milano, Italy

Corresponding author: Luciano Gattinoni, gattinon@policlinico.mi.it

See related research by Chiumello *et al*., http://ccforum.com/content/12/6/R150

Published: 16 March 2009
This article is online at http://ccforum.com/content/13/2/405

Critical Care 2009, **13:**405 (doi:10.1186/cc7743)

Following publication of our recent article [1], we noticed several errors relating to the figures. The complete set of correct figures follows below (Figure 1, 2, 3, 4 and 5).

The legend for Figure 5, 'Comparison of end expiratory lung volume (EELV) measured by the helium dilution technique and the nitrogen washout/washin method', was incorrect and should read as follows:

Comparison of end expiratory lung volume (EELV) measured by the helium dilution technique and the nitrogen washout/washin method. (a) The EELV measured by the helium dilution as a function of the EELV measured by nitrogen washout/washin method (EELV helium dilution = -111.85 + 0.89 × EELV GE, $r^2 = 0.82$, $p < 0.00001$). (b) The Bland-Altman plot of the EELV measured with the nitrogen washout/washin technique and the EELV measured with the helium dilution method. The x-axis shows the mean of the two measurements and the y-axis shows the difference between the EELV measured by then helium dilution method and the nitrogen washout/washin method (average difference -229 ± 164 ml, limits of agreement -558 – 100 ml).

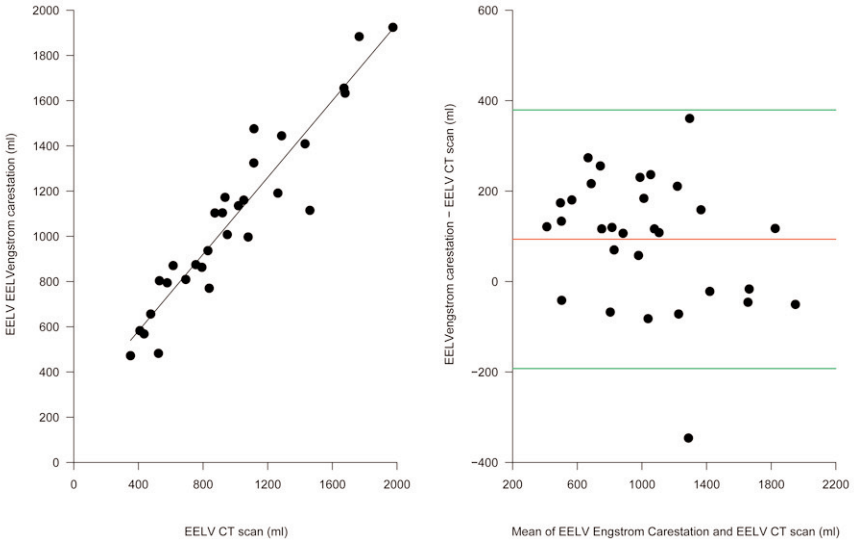
The values in graph (a) of Figures 1, 4 and 5 had been plotted onto the incorrect axis.

The panels in Figure 3 had been switched. Graph (a) should be the linear regression plot and graph (b) should be the Bland-Altman plot.

Reference

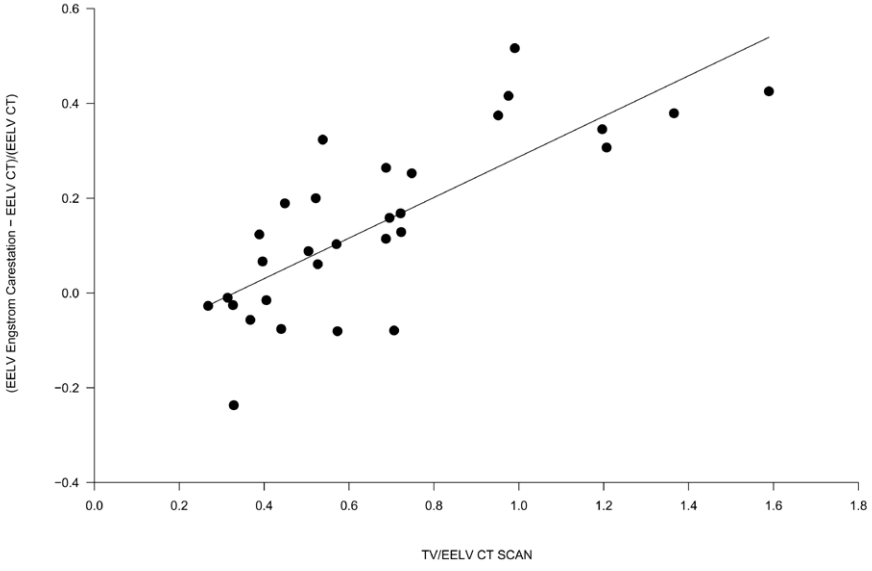
1. Chiumello D, Cressoni M, Chierichetti M, Tallarini F, Botticelli M, Berto V, Mietto C, Gattinoni L: **Nitrogen washout/washin, helium dilution and computed tomography in the assessment of end expiratory lung volume** *Critical Care* 2008, **12:**R150.

Figure 1



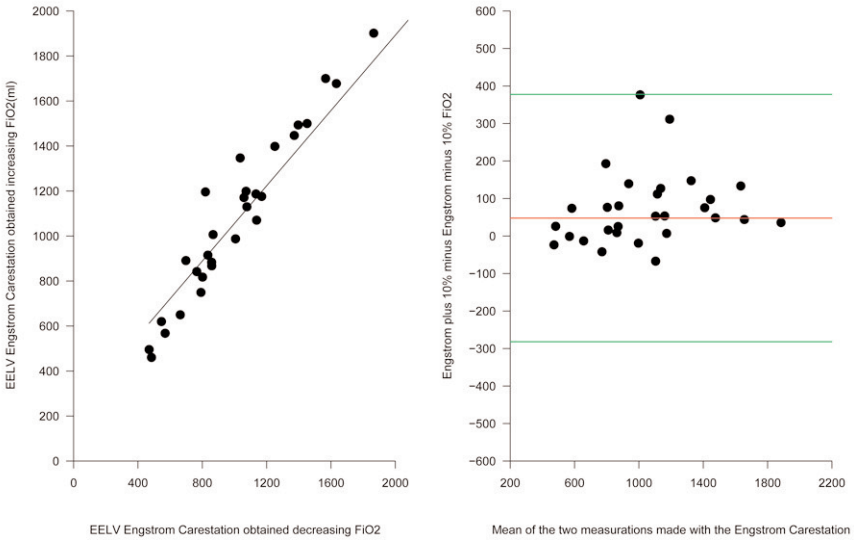
Comparison of end expiratory lung volume (EELV) measured by the Engstrom Carestation and the computed tomography (CT) scan. (a)The EELV measured by the Engstrom Carestation as a function of the EELV measured by the computed tomography (CT) scan (EELV carestation = 242 + 0.85 × EELV CT scan, $r^2 = 0.89$, $p < 0.00001$). (b) The Bland-Altman plot of the EELV measured with the CT scan and the EELV measured with the Engstrom Carestation. The x axis shows the mean of the two measurement and the y axis shows the difference between the EELV measured by the Engstrom Carestation and the EELV measured by the CT scan (average difference 93 ± 143 ml, limits of agreement -50 – 236 ml).

Figure 2



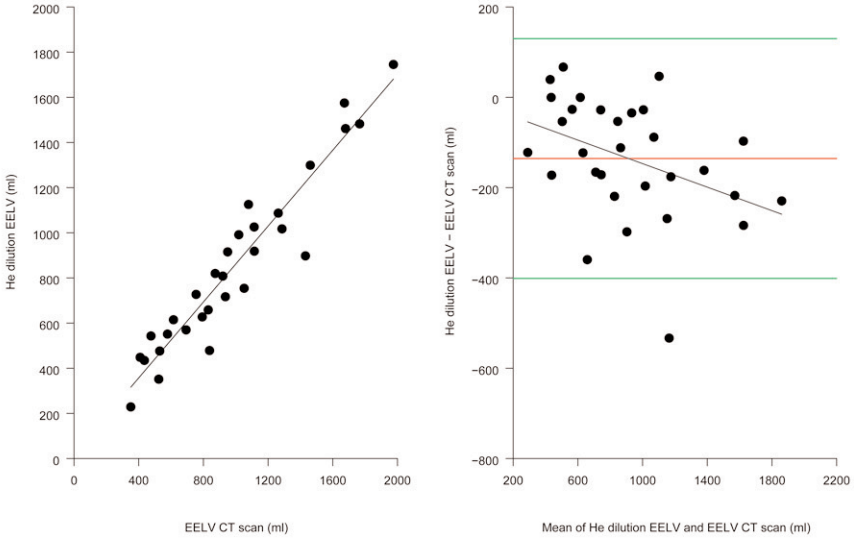
The relative error of the procedire performed by the Engstrom Carestation. This is expressed as $(EELV_{GE} - EELV_{CT\ SCAN})/EELV_{CT\ SCAN}$ as a function of the ratio between tidal volume and the end expiratory lung volume (EELV) measured by computed tomography (CT) scan $((EELV_{GE} - EELV_{CT\ SCAN})/EELV_{CT\ SCAN} = 0.05 + 0.43 \times (\text{Tidal Volume}/EELV_{CT\ SCAN}$, $r^2 = 0.58$, $p < 0.0001$).

Figure 3



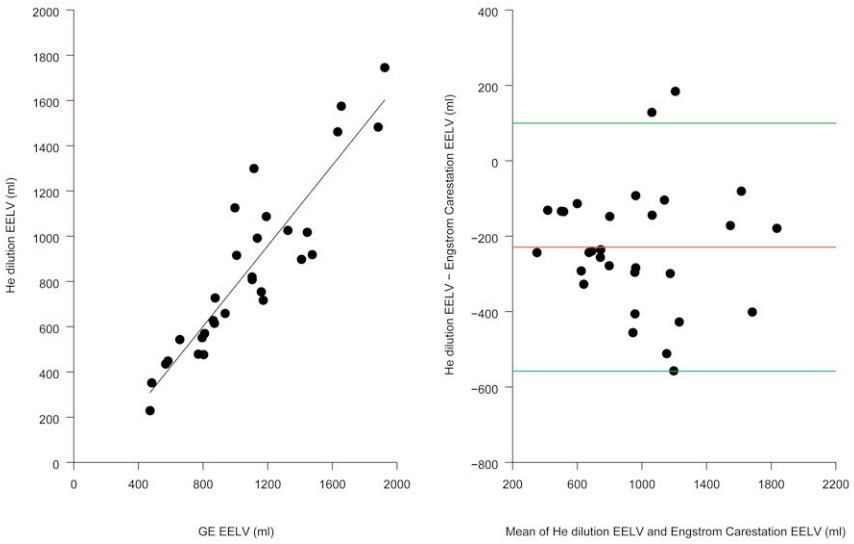
Accuracy of the nitrogen washin-washout technique. (a) The relation between the EELV measured by increasing the FiO_2 as a function of the EELV obtained decreasing FiO_2. The EELV obtained increasing the FiO_2 was -56 + 1.0078 multiplied by the EELV obtained decreasing the FiO_2 ($r^2 = 0.84$, $p < 0.0001$). (b) The Bland-Altman plot of the EELV measurement obtained increasing the FiO_2 and the EELV obtained decreasing the FiO_2. The x axis shows the mean of the two measurements and the difference between the EELV measured by increasing FiO_2 and the y axis shows the EELV obtained decreasing FiO_2 (average difference 48 ± 165 ml, limits of agreement -117–213 ml).

Figure 4



Comparison of end expiratory lung volume (EELV) measured by the helium dilution technique and the computed tomography (CT) scan. (a) The EELV measured by the helium dilution technique as a function of the EELV measured by the CT scan (EELV helium dilution = 20 + 0.84 × EELV CT scan, $r^2 = 0.91$, $p < 0.00001$). (b) The Bland-Altman plot of the EELV measured with the CT scan and the EELV measured with the helium dilution method. The x axis shows the mean of the two measurements and the y axis shows the difference between the EELV measured by the helium dilution method and the EELV measured by the CT scan (average difference -136 ± 133 ml, limits of agreement -3 – 269 ml). The difference between the EELV measured with the helium dilution method and the EELV measured with CT scan was significantly correlated with the EELV, expressed as the average between the two measurements (Helium EELV - CT scan EELV = -15.52764 + -0.17034 × (helium EELV + CT scan EELV)/2, $r^2 = 0.21$, $p = 0.005838$).

Figure 5



Comparison of end expiratory lung volume (EELV) measured by the helium dilution technique and the nitrogen washout/washin method. (a) The EELV measured by the helium dilution as a function of the EELV measured by nitrogen washout/washin method (EELV helium dilution = -111.85 + 0.89 × EELV GE, $r^2 = 0.82$, $p < 0.00001$). (b) The Bland-Altman plot of the EELV measured with the nitrogen washout/washin technique and the EELV measured with the helium dilution method. The x-axis shows the mean of the two measurements and the y-axis shows the difference between the EELV measured by then helium dilution method and the nitrogen washout/washin method (average difference -229 ± 164 ml, limits of agreement -558 – 100 ml).