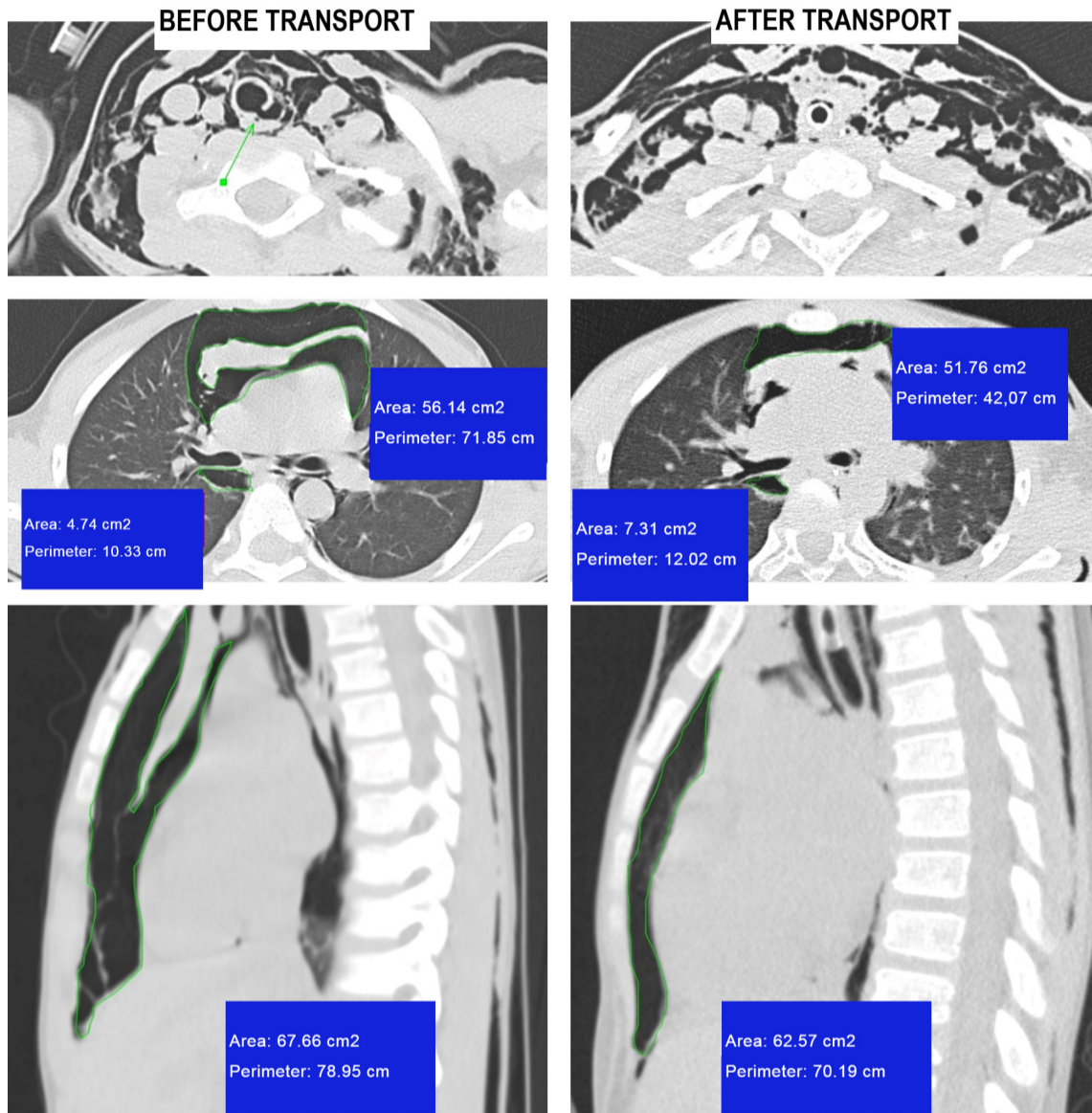


# AIRTRANSPORT OF PEDIATRIC PNEUMOMEDIASTINUM

F. Bernasconi(1)(2), M. Teruzzi(1)(3)(7), F. Sangalli(3), M. Alber(1)(4)  
 P. Nazzari (1)(4), G. Senini (1)(4), M. Merolla (1)(3), A. Cadisco (5)(6)  
 D. Comi (5)(6)  
 A. Giupponi (7), G. Marconi (7)

(1) Base HEMS Sondrio - AREU  
 (2) ASST Grande Ospedale Metropolitano Niguarda, Milano, Italia.  
 (3) ASST Valtellina e Alto Lario, Sondrio, Italia.  
 (4) Babcock MCS Colico (LC), Italia.  
 (5) SOREU delle Alpi - AREU, Bergamo, Italia.  
 (6) ASST Ospedale Papa Giovanni XXIII, Piazza OMS 1, Bergamo, Italia.  
 (7) Agenzia Regionale Emergenza Urgenza (AREU), Milano, Italia.



// 8 years old boy after a fall off bike was conducted in hospital for lateral cervical swelling  
 // Imaging performed showing a voluminous pneumomediastinum (figure 1, left)

// urgent secondary transfer for the pediatric trauma center: the HEMS team of Sondrio was involved in the decision-making of air transport  
 // Patient evaluation: airway secured (fiberoptic intubation) and mediastinal air no longer supplied, no hemodynamic instability, no anatomical distortion on imaging (figure 1)  
 // Route evaluation: discussion with the pilots of the possibility of a low altitude flight (figure 2 and graph)  
 // Transport: flying height of 500 ft. for 32 minutes without complication  
 // H Bergamo: no increase in mediastinal air (figure 1), conservative treatment and maintained intubated for 8 days

## CONCLUSION

// Air in closed cavities has historically been an absolute contraindication to air travel but in borderline cases, consulting with expert personnel can be a further resource.

Figure 1. Chest CT performed before and after transport showing latero-cervical subcutaneous emphysema and pneumomediastinum. The green lines delimit the sampling areas used for the comparison (Ginkgo CADx 3.7.1). The green arrow shows the tracheal lesion.

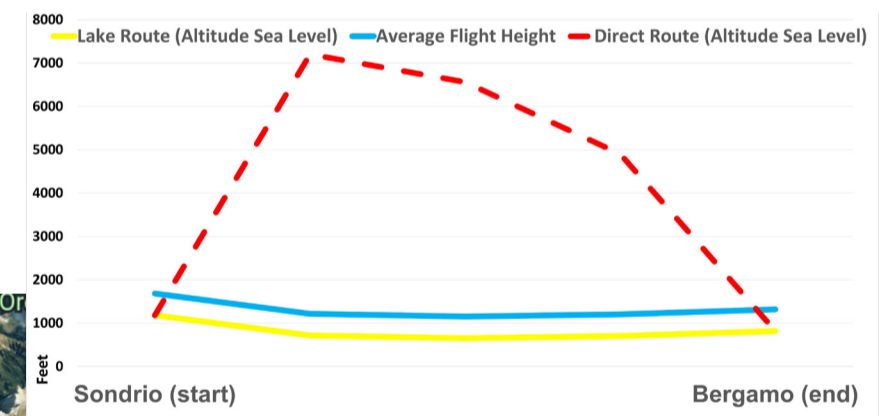


Figure 2: map showing the 2 possible routes from the starting point (H Sondrio) to the arrival point (H Bergamo, PG XXIII) The "Lake Route" (yellow line) and the "Direct Route" (red line). Graph: comparison of the altitude of the two different routes shown on the map (figure 2). The blue line shows the average altitude held during the transfer.

### Citations:

// Aerospace Medical Association Medical Guidelines Task Force. Medical Guidelines for Airline Travel, 2nd ed. Aviat Space Environ Med. 2003 May;74(5 Suppl):A1-19.  
 // Managing passengers with stable respiratory disease planning air travel: British Thoracic Society recommendations. Thorax. 2011 Sep;66 Suppl 1:i1-30  
 // Pneumothorax volume expansion in helicopter emergency medical services transport. Air Med J. 2013 May-Jun;32(3):138-43.