

## **ONLINE SUPPLEMENTARY DATA**

### **Exercise Training in Chronic Obstructive Pulmonary Disease:**

#### **Muscle O<sub>2</sub> Transport Plasticity**

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### **Vastus lateralis morphometry in patients with COPD pre- and post-training.**

Five of the patients with COPD also underwent percutaneous needle biopsies of the vastus lateralis, as previously described [1]. These patients exhibited predominantly type II fibers and a, relative, scarcity of type I fibers pre-training. Fiber type distributions, capillary density, capillary-to-fiber ratio, and number of capillaries around a fiber were not significantly changed by training. However, citrate synthase activity was increased by ~55% following KE training in these patients (Table S1).

**Table S1. Vastus Lateralis Morphometry in Patients with COPD Pre and Post Knee-Extensor Exercise Training**

	<b>COPD</b>	
	PRE	POST
Type I fibers (area%)	26 ± 9	33 ± 7
Type II fibers (area%)	71 ± 10	62 ± 6
Capillary density (capillaries/mm <sup>2</sup> )	555 ± 94	500 ± 60
Capillary-to-fiber ratio	1.47 ± 0.16	1.76 ± 0.15
Number of capillaries around a fiber	3.93 ± 0.42	4.18 ± 0.28
Mitochondrial volume density	5.0 ± 0.3	5.2 ± 0.7
Citrate synthase activity	8.2 ± 1.5	12.7 ± 1.7*

Values reported as mean ± SEM. COPD, n=5. \* p<0.05 versus pre-training.

### **Reference**

1. Richardson RS, Leek BT, Gavin TP, Haseler LJ, Mudaliar SR, Henry R, Mathieu-Costello O, Wagner PD. Reduced mechanical efficiency in chronic obstructive pulmonary disease but normal peak VO<sub>2</sub> with small muscle mass exercise. *Am J Respir Crit Care Med* 2004; 169(1): 89-96.