

VOLUME 44 / SUPPLEMENT 58 / SEPTEMBER 2014

EUROPEAN RESPIRATORY *journal*

OFFICIAL SCIENTIFIC JOURNAL OF THE ERS

Abstracts / *24th International Congress*
Munich, Germany 6 –10 September 2014

Online ISSN: 1399-3003



ERS EUROPEAN
RESPIRATORY
SOCIETY

every breath counts

Copyright for individual abstracts remains with the authors.

This abstract supplement has been produced electronically by the European Respiratory Society. The European Respiratory Society is not responsible for errors or omissions in content. The ideas and opinions expressed in this publication do not necessarily reflect those of Coe-Truman and the European Respiratory Society. Products mentioned in this publication should not be construed as an endorsement of the product or the manufacturer's claims. Readers are encouraged to contact the manufacturer with any questions about the features or limitations of the products mentioned. The European Respiratory Society assumes no responsibility for any injury and/or damage to persons or property arising out of or related to any use of the material contained in these abstracts. The reader is advised to check the appropriate medical literature and the product information currently provided by the manufacturer of each drug to be administered to verify the dosage, the method and duration of administration, or contraindications. It is the responsibility of the treating physician or other health care professional, relying on independent experience and knowledge of the patient, to determine drug dosages and the best treatment for the patient. An effort has been made to check generic and trade names, and to verify drug doses. The ultimate responsibility, however, lies with the prescribing physician. Please convey any errors to scientific@ersnet.org.

Citations should be made in the following way: **Authors. Title. Eur Respir J 2014; 44: Suppl. 58, abstract number.**



Table Of Content

| | |
|---|---|
| 246. Pathophysiological mechanisms at different scales | 2 |
| | 2 |
| 2144: No effect of low-intensity endurance exercise on muscle necrosis in the diaphragm of mdx mice | 2 |
| | 2 |

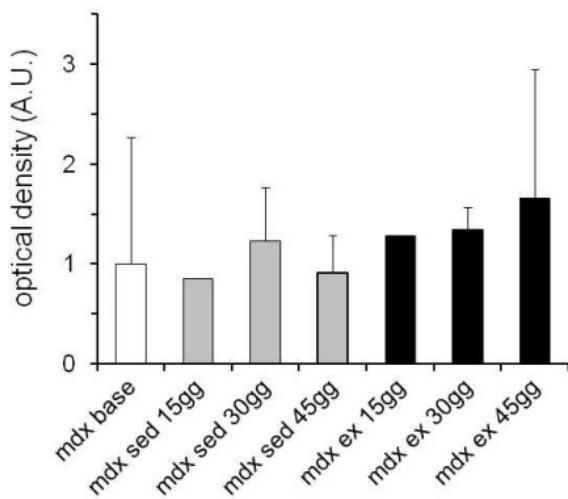
**246. Pathophysiological mechanisms at different scales**

2144

No effect of low-intensity endurance exercise on muscle necrosis in the diaphragm of mdx mice

Monica Frinchi¹, Giuseppa Mudò¹, Francesca Rappa¹, Maria R. Bonsignore², Francesco Cappello¹, Natale Belluardo¹, Andrea Pace³, Giuseppe Morici¹
¹Dpt of Experimental BioMedicine and Clinical Neurosciences (BioNEC), University of Palermo, Palermo, Italy; ²BioMedical Department of Internal and Specialistic Medicine (DiBiMIS), University of Palermo, Palermo, Italy; ³Dpt of Biological, Chemical and Pharmacological Science and Technology (STEBICEF), University of Palermo, Palermo, Italy

Duchenne muscular dystrophy (DMD) is characterized by progressive skeletal muscle weakness. We have previously shown that low-intensity endurance training prevented muscle damage (Frinchi et al, Int J Sports Med 2014). Since the effects of low-intensity endurance training on the the diaphragm in the mdx mouse model are unknown, in the same animals we investigated Cx39 protein levels (Western blotting) in homogenates of the diaphragm before and after training. Mdx and wild-type (WT) mice were randomly assigned to sedentary (mdx-S, n=17; WT-S, n=19) or trained (mdx-EX, n=14; WT-EX, n=16) groups. Low-intensity endurance training (running on a wheel) was done 5 days/week for 6 weeks at progressively increasing time (15 min to 1 h) and speed (rpm from 16 to 24, distance covered during training sessions from 48 to 288 m). Compared to our previous analysis of skeletal muscles changes in gastrocnemius and quadriceps, showing decreased muscle damage in trained vs sedentary mdx mice, analysis of protein level of Cx39 showed similar values in diaphragm homogenates from sedentary and trained mdx mice.



These preliminary data suggest that prevention of muscle necrosis after mild training does not occur in the diaphragm. As a speculation, continuous work of diaphragm vs intermittent work of skeletal muscle might at least partly account for the different results obtained in respiratory and locomotor muscle.