

# International Conference and Expo on Novel Physiotherapies

August 17-19, 2015 Chicago, Illinois, USA

## Compressed air massage: What do we know?

**Maurice Mars**

University of KwaZulu-Natal, South Africa

**Introduction:** Compressed air massage (CAM) is an alternative form of massage. The addition of a daily CAM treatment to the standard treatment regime of diabetic foot ulcers significantly reduced time to healing. Proposed mechanisms for this were; alterations in microvasculature shear stress during massage promoting nitric oxide release and associated changes in the microcirculation; and the pressure produced during massage improving tissue oxygenation by reducing oedema and facilitating lymphatic drainage. Muscle injury causes local inflammation, myofibre and interstitial oedema with rising intercellular pressure causing capillary compression and a secondary ischaemic injury. We hypothesized that CAM treatment of acute muscle contusion might also facilitate muscle healing.

**Methods:** A standardized muscle contusion injury was developed in a rabbit model and associated morphological and ultrastructural changes in muscle and capillaries described using light and electron microscopy up to 6 days after injury in 16 animals. Three zones of injury were noted with most injury noted adjacent bone. This was repeated in 32 rabbits (16 in each group) with CAM treatment at 100 kPa for 10 min administered either immediately after injury (single treatment), or immediately, 24 h and 48 h (three treatments) after injury.

**Results:** There was significantly less evidence of injury and more advanced healing in treated animals, with three treatments more beneficial than single treatment.

**Conclusion:** CAM treatment immediately after injury appears to reduce injury and facilitate muscle repair. Further studies are required to see if CAM is as effective as rest, ice or compression in the management of muscle injury.

## Biography

Maurice Mars is a medical graduate of the University of Cape Town and has a Doctorate degree in Vascular Surgery from the University of Natal, where he was Professor of Physiology and initiated a Post-graduate sports medicine program. He is currently Professor of TeleHealth at the University of KwaZulu-Natal and runs Postgraduate programs in Telemedicine and Medical Informatics, by video conference, with students in several African countries. He has published over 190 peer reviewed papers and book chapters, serves on several editorial boards and is the founding editor of the *Journal of the International Society for Telemedicine and eHealth*. He chairs the Education Committee of the International Society for Telemedicine and eHealth, the International SIG of the American Telemedicine Association, and chaired the eHealth Committee of the Ministerial Advisory Committee on Medical Technology in South Africa. His research interests are telemedicine implementation and skin and muscle microcirculation.

[mars@ukzn.ac.za](mailto:mars@ukzn.ac.za)

## Notes: