



PHYPODE Project

Physiopathology of decompression

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PHYPODE Network

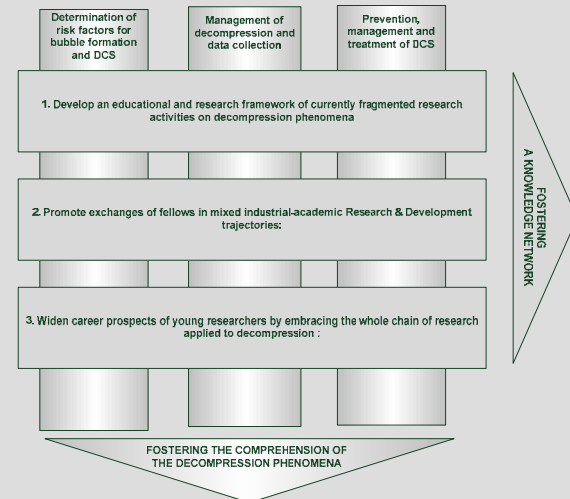
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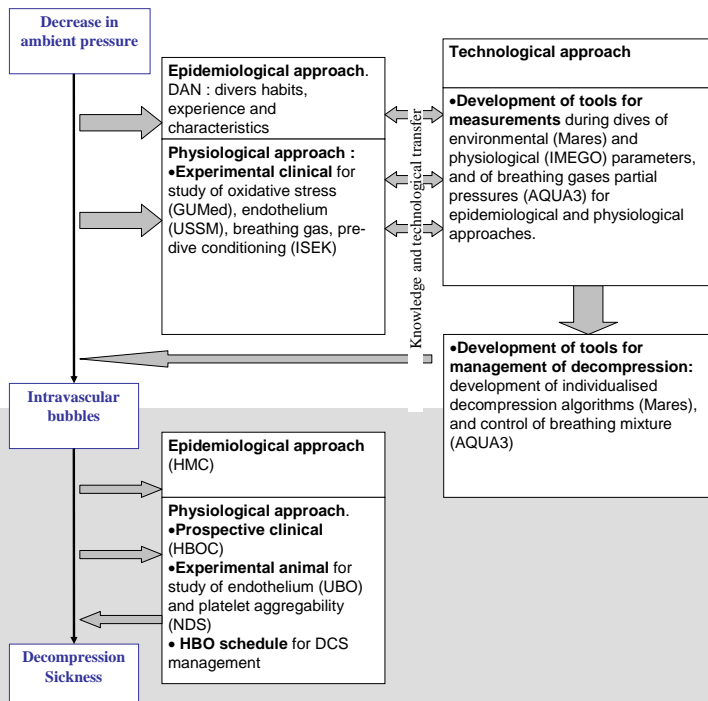
INTRODUCTION

Currently in Europe there is an international training network (ITN) for researchers called PHYPODE: Physiopathology of decompression: **Risk factors for the formation of intravascular bubbles during decompression**. It aims to:

- 1) develop a coherent and integrated research training program on decompression phenomena with specific attention to the formation of intravascular bubbles with their pathophysiological and clinical consequences, including endothelial function and DCS;
- 2) develop an exchange of knowledge that will be structured by the initial training network activities, giving young researchers opportunities to share research techniques and resources, and jointly participate in courses, seminars, workshops and congresses, and
- 3) widen career prospects of young researchers by embracing the whole chain of research applied to decompression: from fundamental research to clinical and applied research in the medicine and industry.



DESCRIPTION



The PHYPODE network has a budget of about 3.4 MEuro. It is planned for 480 persons-months and it unites several scientific and educational teams from universities and hyperbaric medical centres with industrial partners from France, Poland, Belgium, Italy, Croatia, Egypt and South Africa. Until the mid-term review (2012) there were conducted three workshops (Theoretical basis of decompression, Field data collection and Research and Risk factors for bubble formation and DCS), joint-research activities for underwater experimental diving (Nemo33, Belgium and Lago d'Orta, Italy) and set of animal experiments on endothelial function during decompression (Brest, France).

At the moment 14 researchers are under training and experimental studies include the Critical Flicker Fusion Frequency tests, collecting physiological data from real recreational dives, endothelial function during and after diving, cardiovascular risk factors (incl. TG, LDL, CV risk, stiffness index) and bubble formation, isoprostanes in exhaled breath condensate as a marker of oxidative stress in diving, normobaric oxygen paradox and real time monitoring of cell activity during simulated dives under fluorescent microscopy and confocal microscopy.

RESULTS

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