

Hyperbaric oxygen pretreatment reduce decompression sickness incidence in rat

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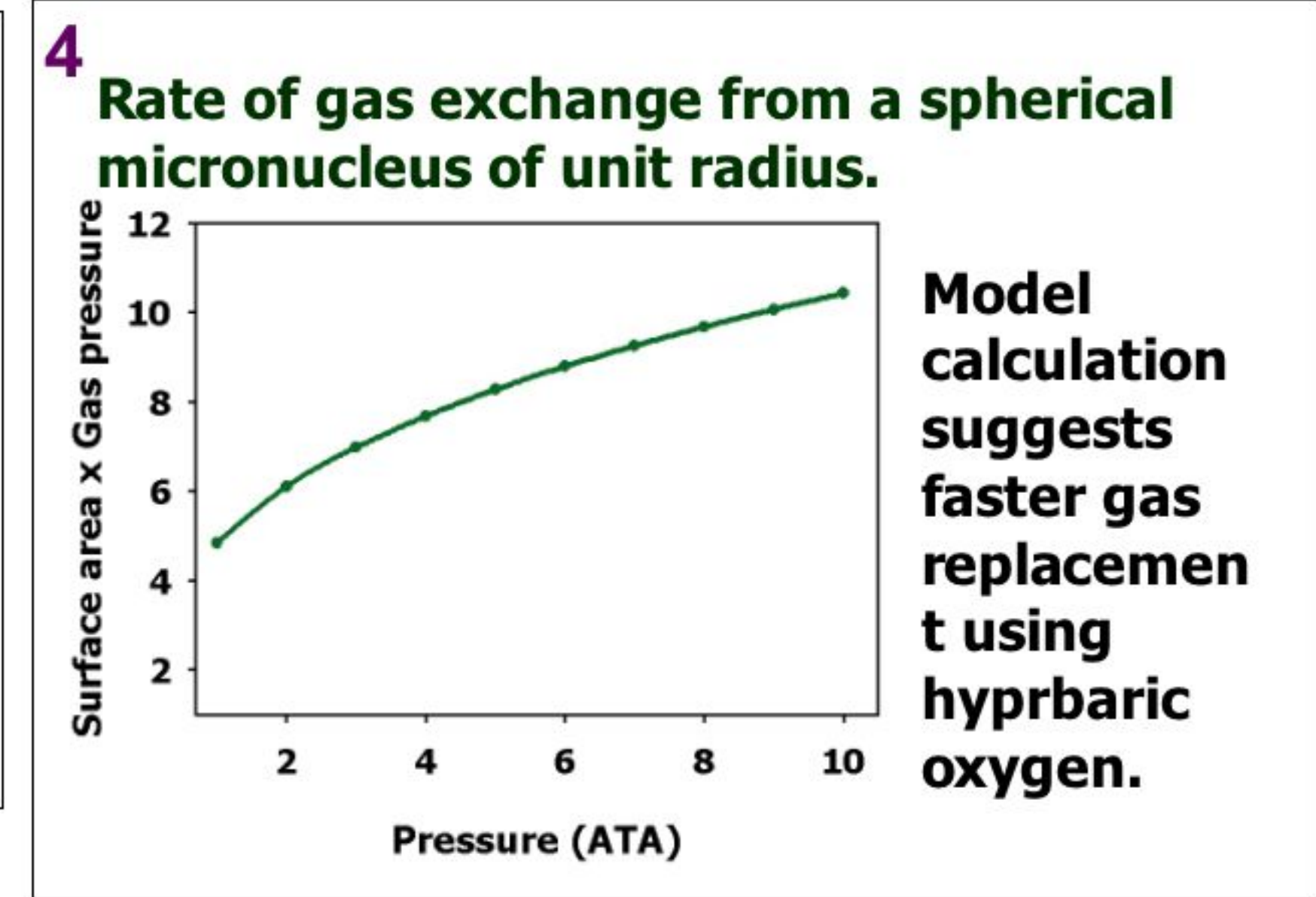
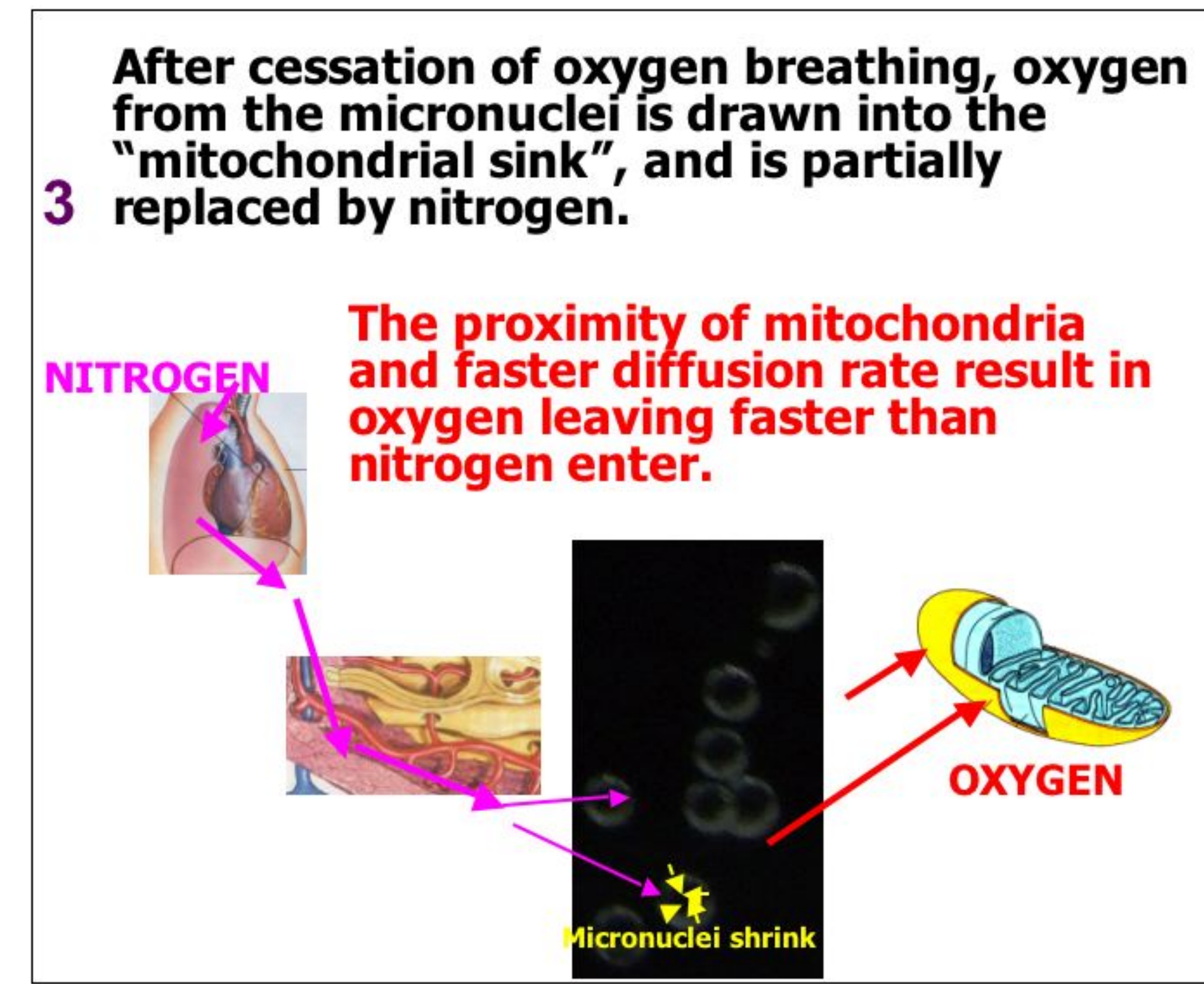
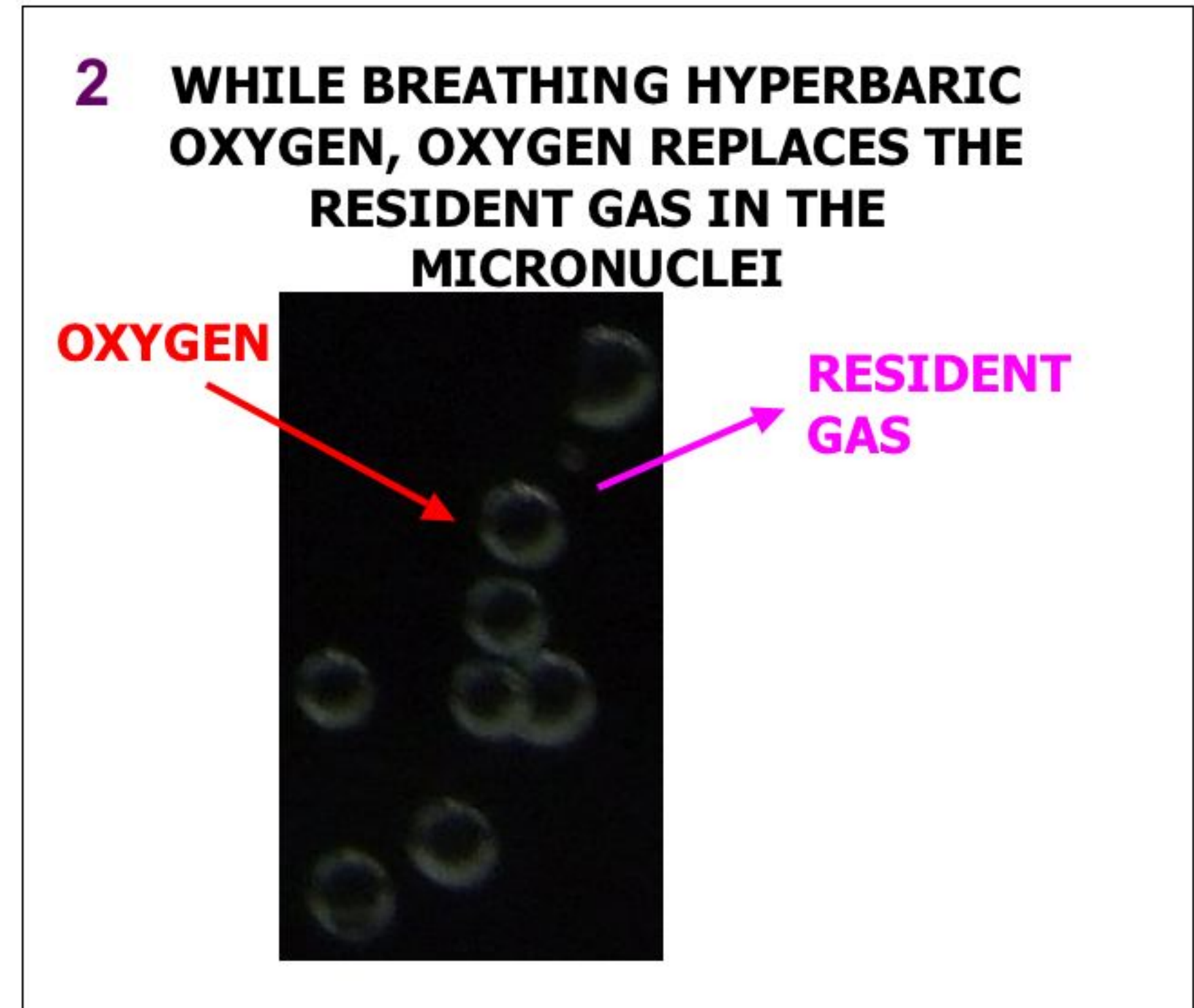
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1 INTRODUCTION

It is widely accepted that bubbles which grow during decompression originate from pre-existing gas micronuclei in tissue.

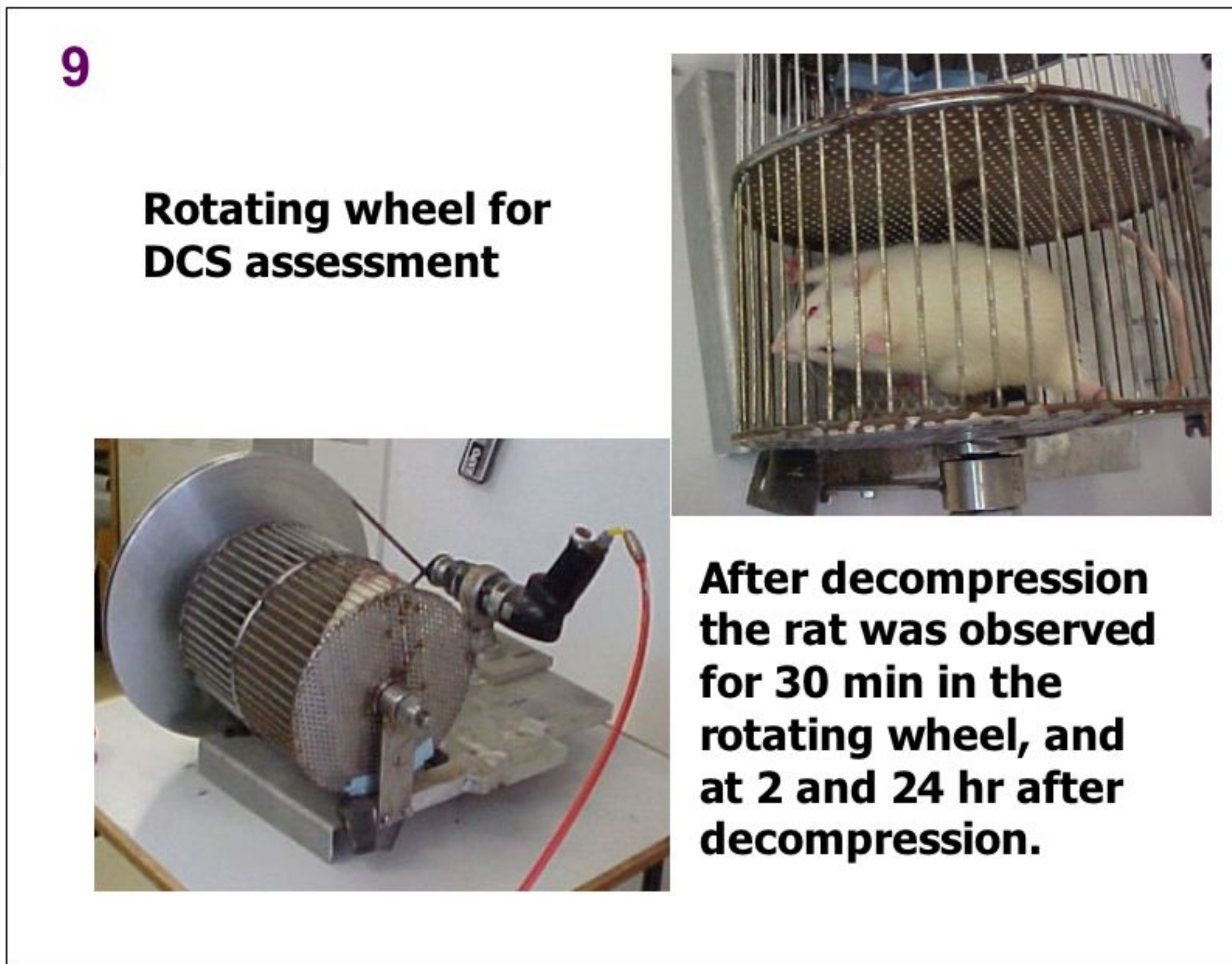
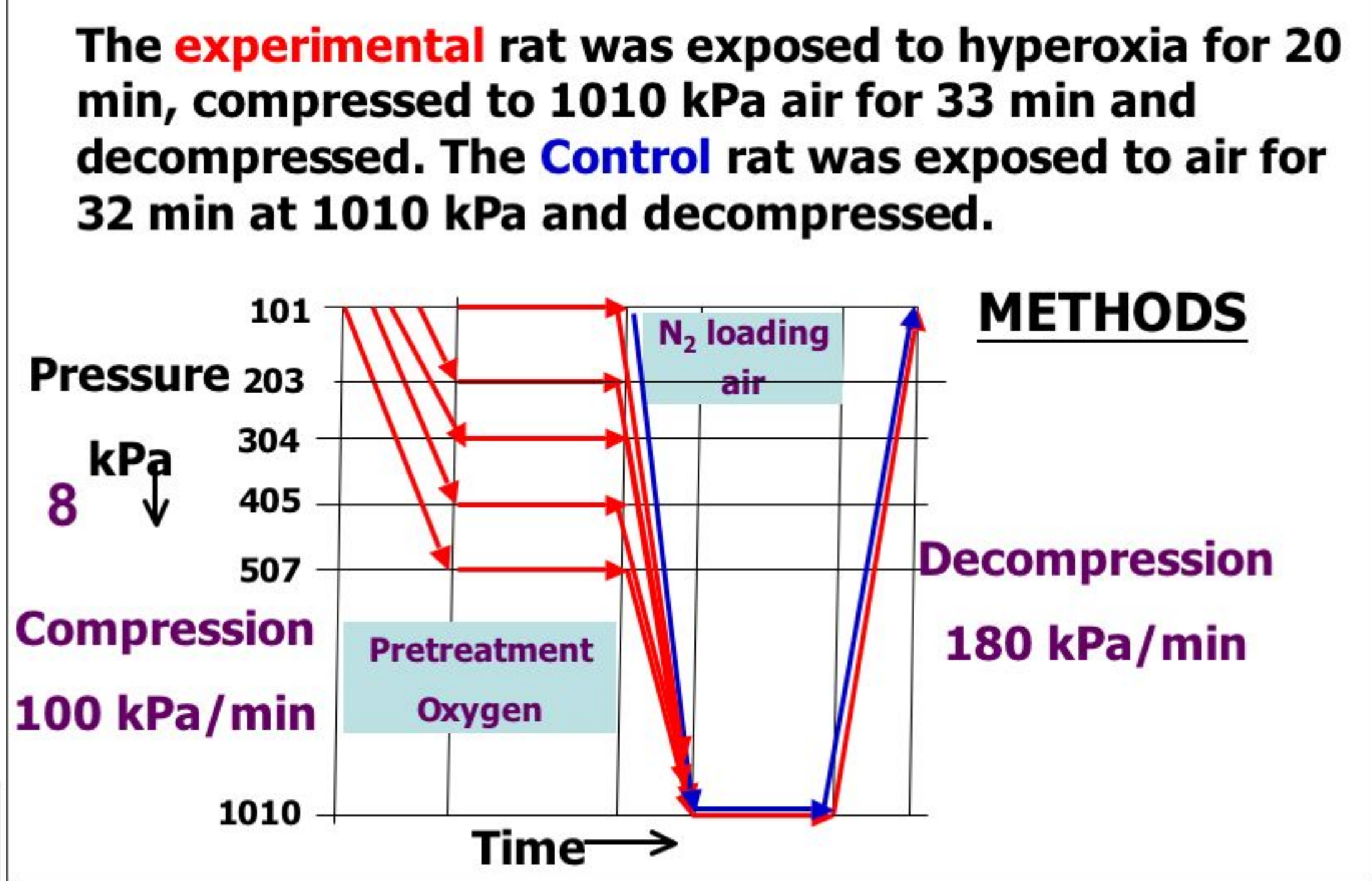
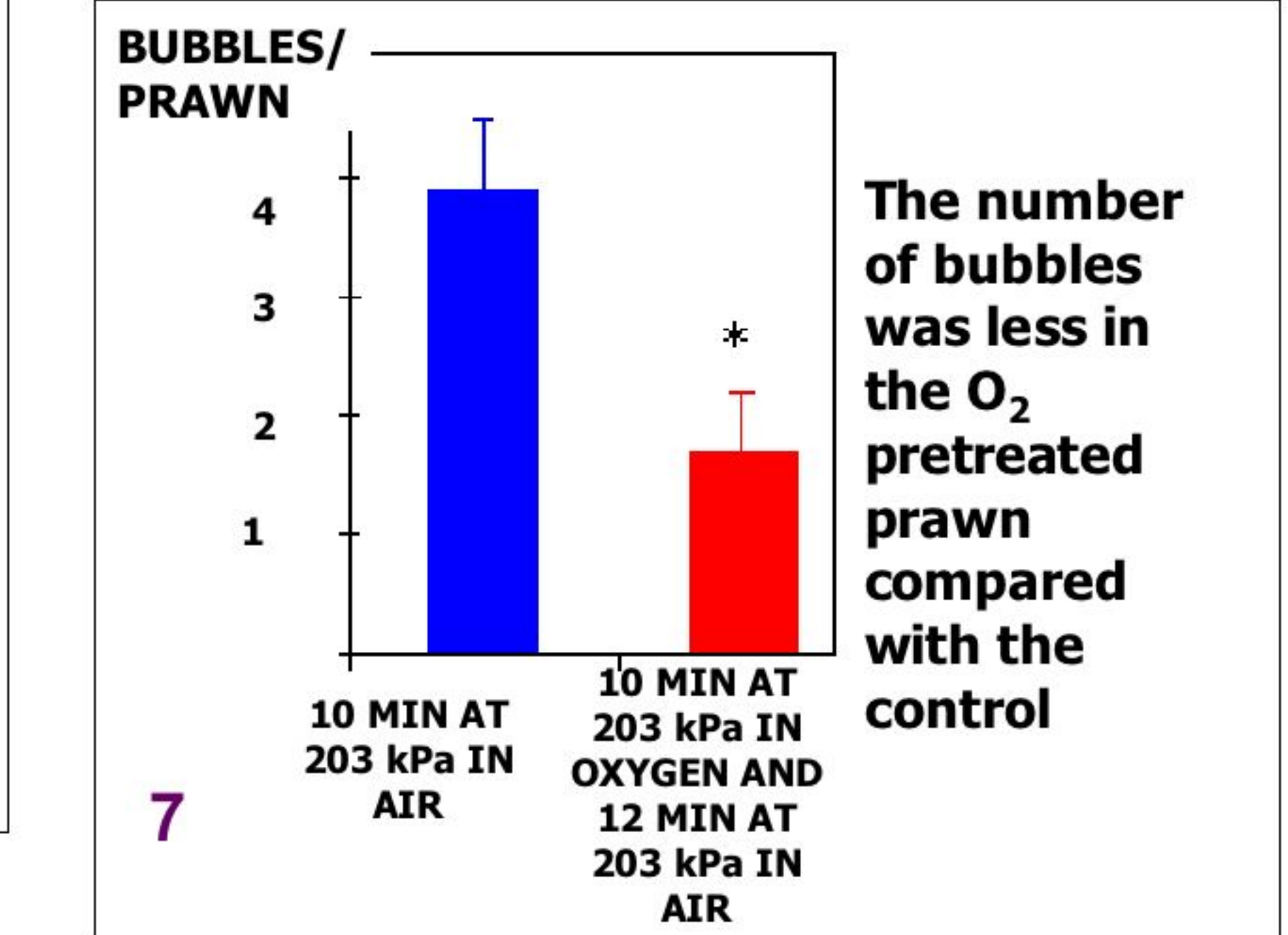
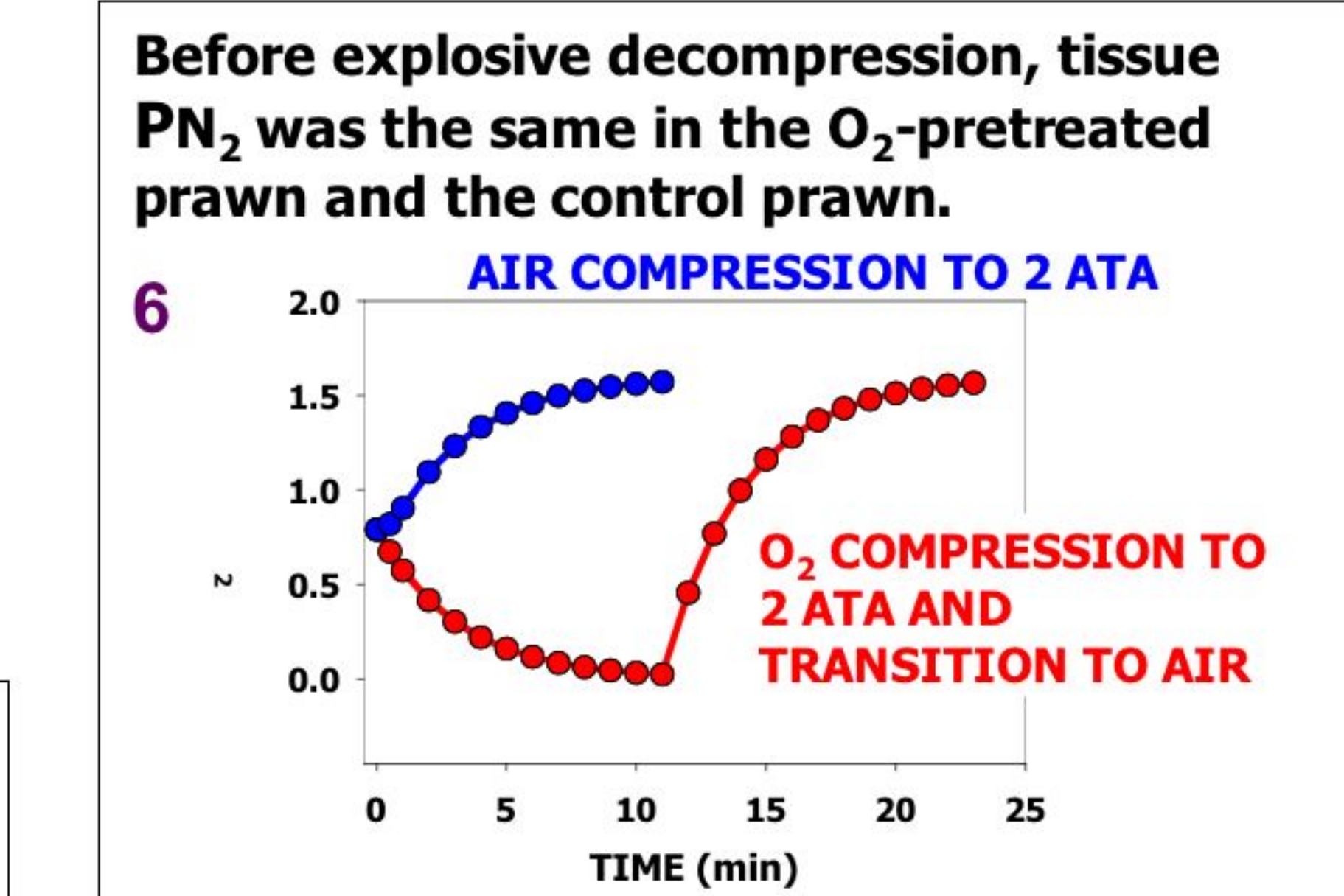

HYPOTHESIS

We hypothesized that pretreatment with hyperbaric O₂ will shrink some of the gas micronuclei, and thus reduce the number of bubbles emerging on decompression.



5 Previous findings

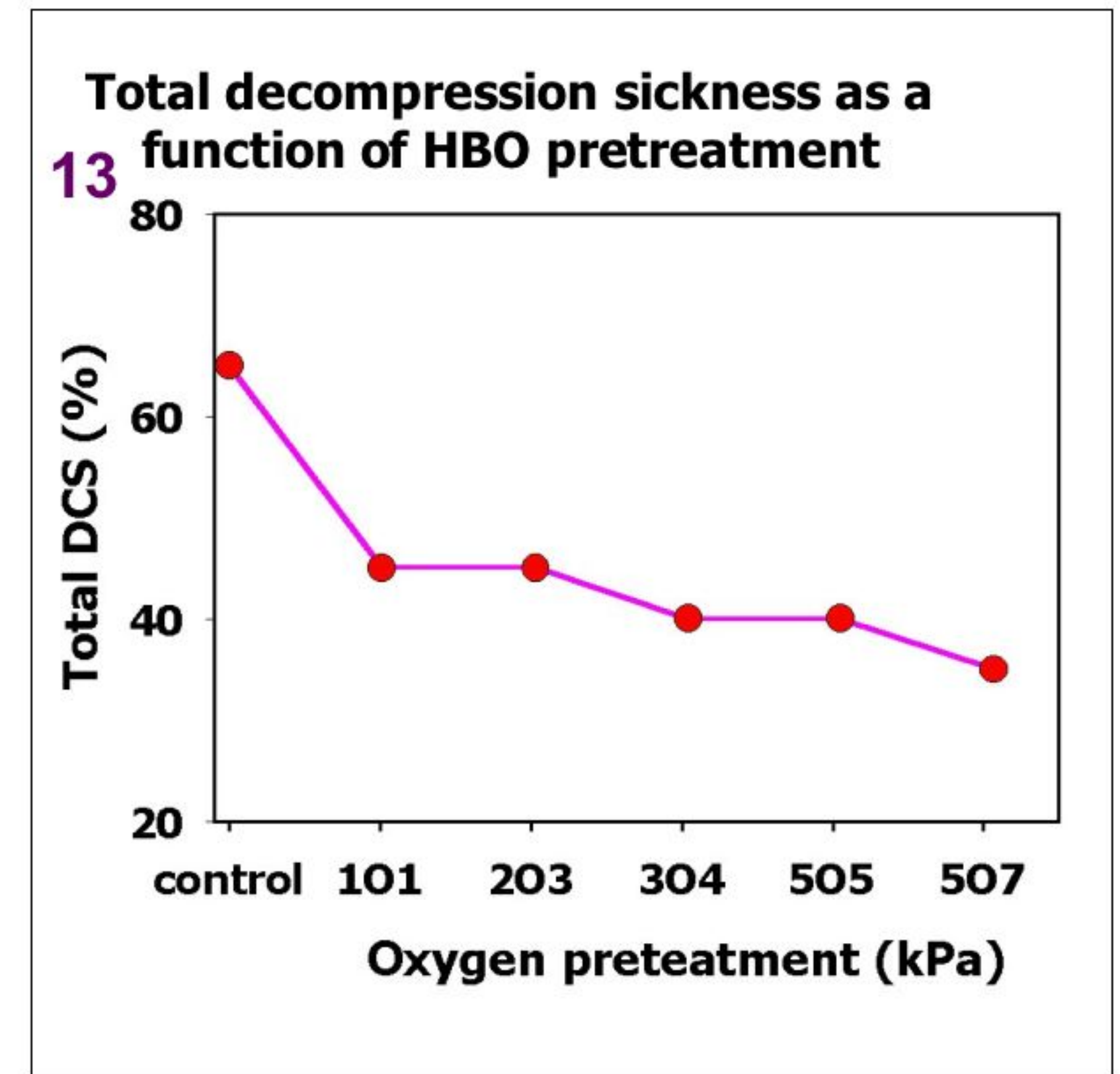
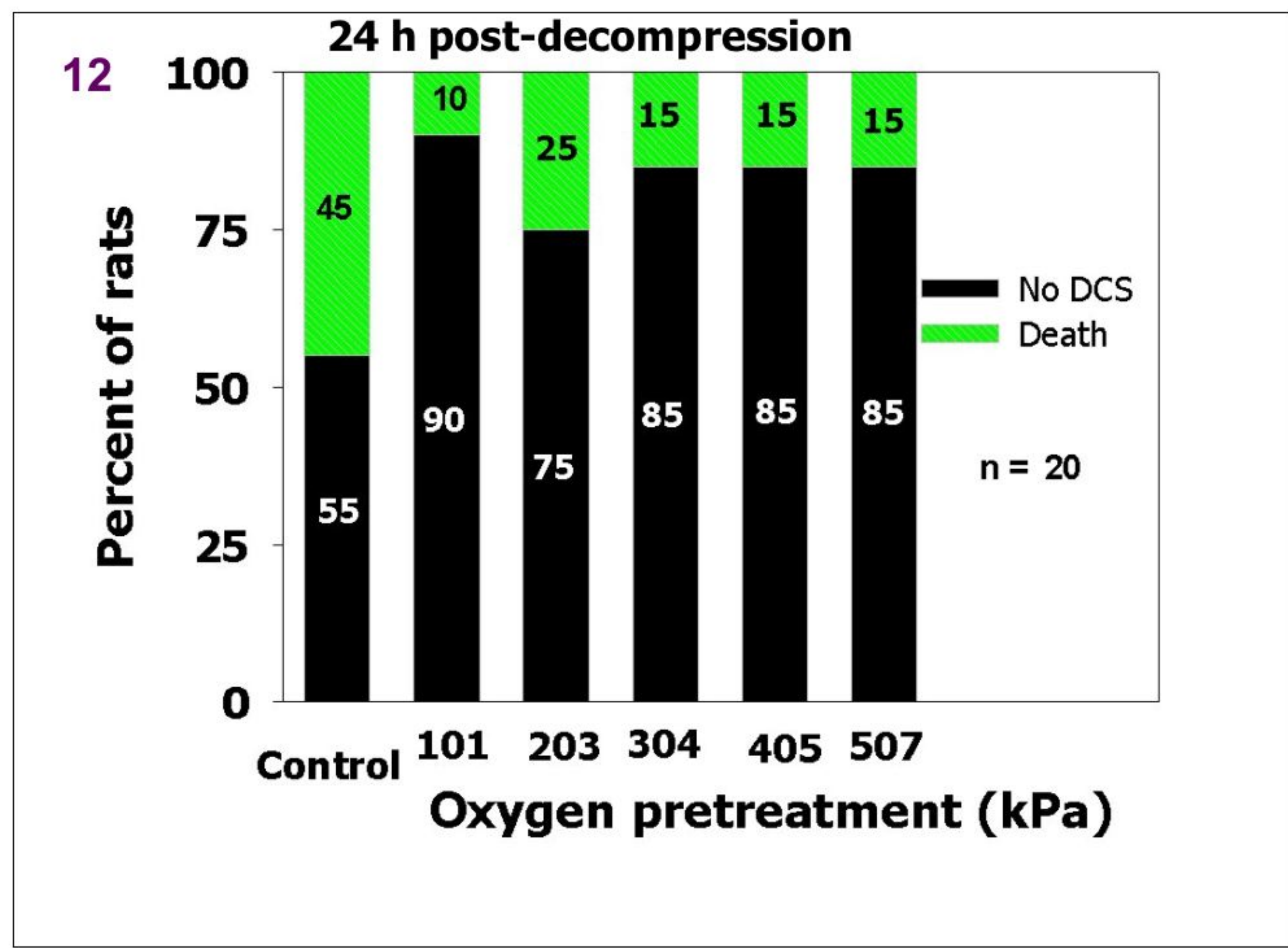
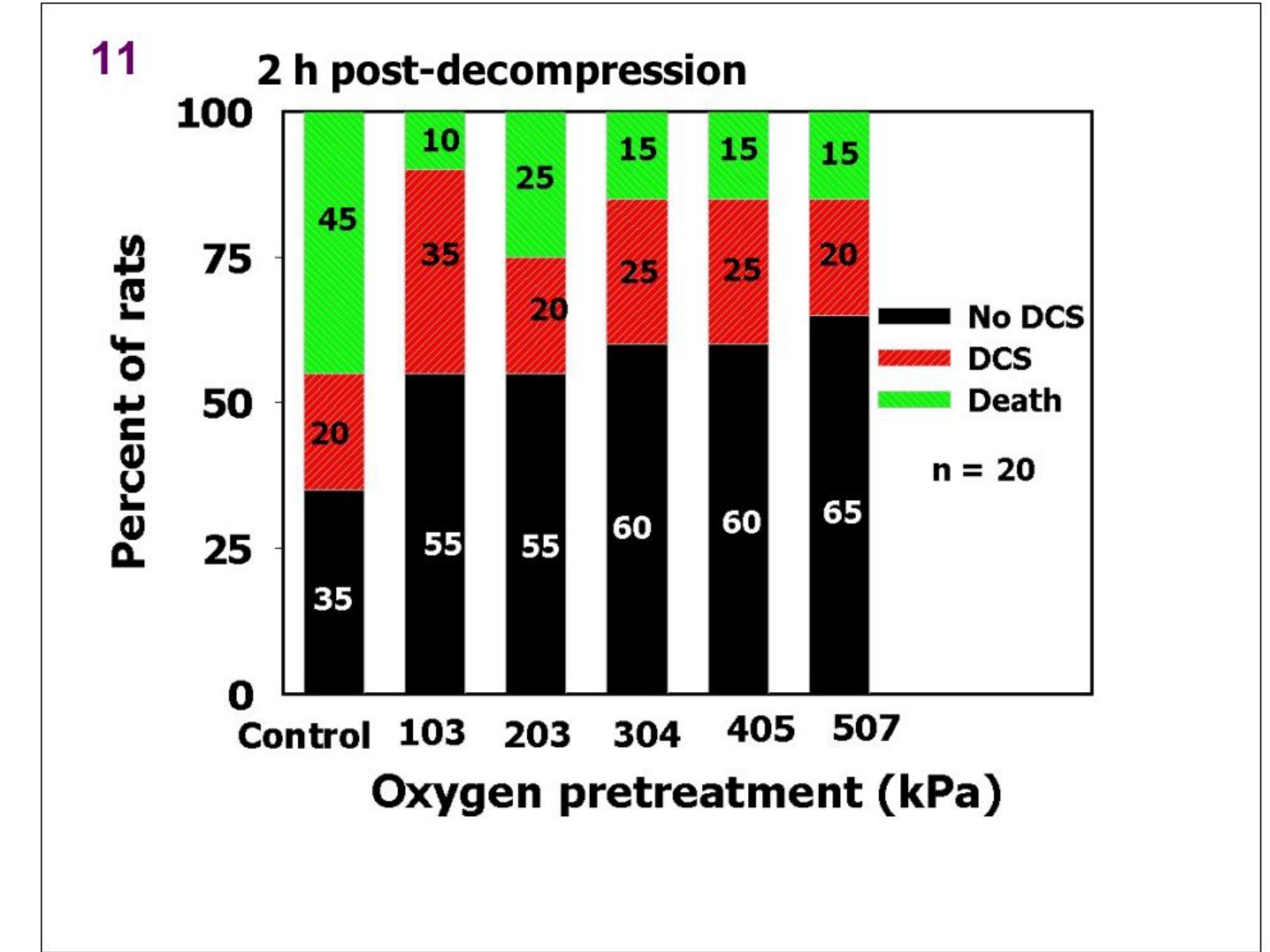
Initially, we tested our hypothesis on the transparent prawn.



10 RESULTS

Three categories were used:

- No DCS – No symptom of DCS
- DCS – Any symptom of DCS which did not terminate in death
- Death – DCS that culminated in death



14 CONCLUSIONS

The reduction of effective micronuclei by hyperbaric oxygen has a huge potential as a means of protection against DCS in man.

Some of this potential has already been assessed by Landolfi et al. (2005), who demonstrated a reduction in bubble score after oxygen pretreatment in man. Human experimentation is being planned with DAN (Diving Alert Network).