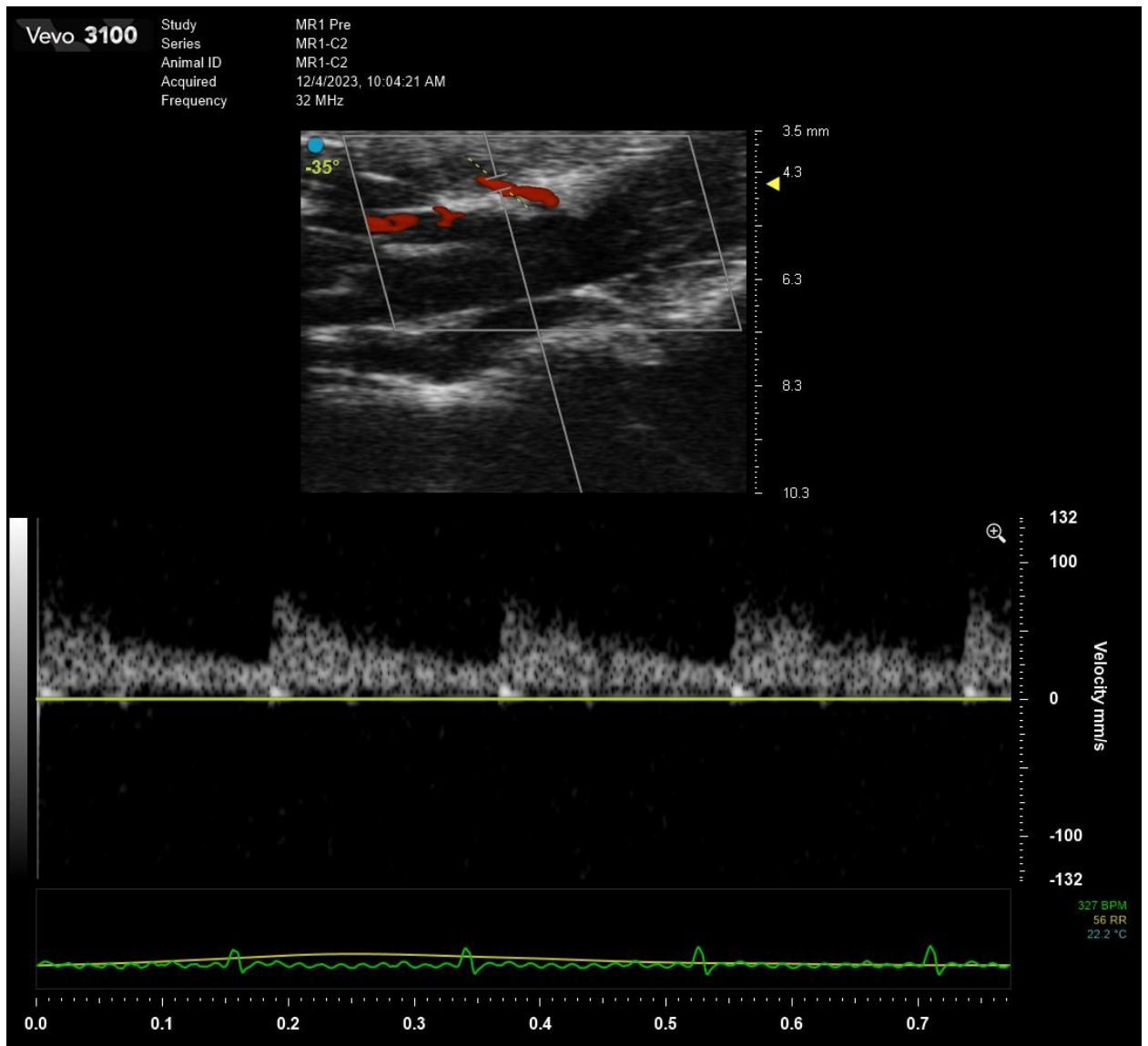


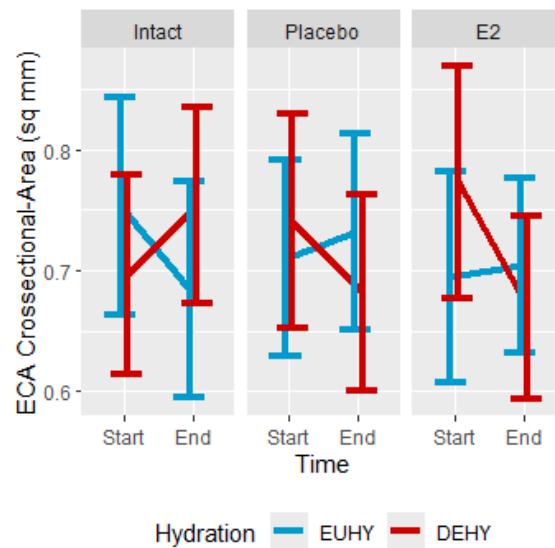
Additional file 2: Supplementary Figures
MRA and Doppler Ultrasound of laryngeal blood flow under hormonal and hydration modulation

A. Representative pulse-wave doppler blood flow velocity scan.

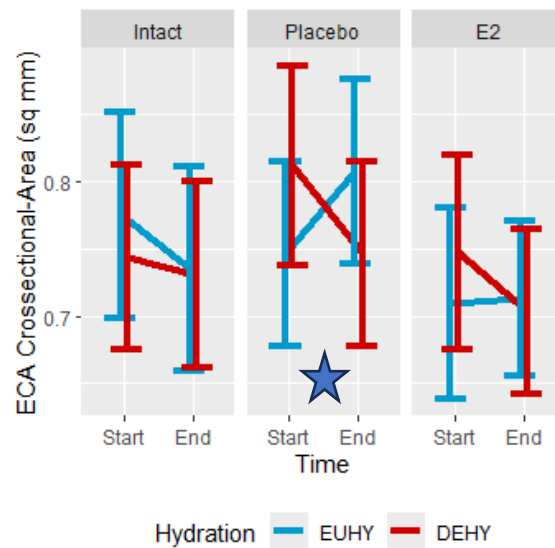


Representative pulse-wave doppler acquisition. Scans were exported and individual measurements acquired from the Vevo Lab (5.9.0, FUJIFILM VisualSonics); three full cardiac cycles were used to calculate an average for each measurement at the given timepoint.

2.B. ECA area at STA three-way interaction

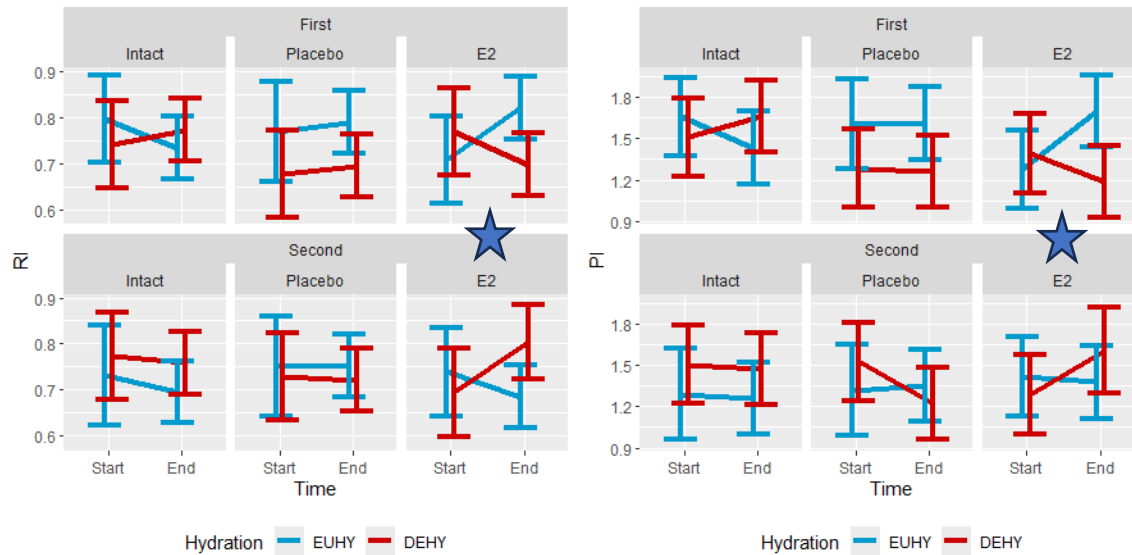


2.C ECA area at OA three-way interaction



Three-way interaction plot for the ECA area at the STA branch point (B) and the OA branch point (C). Although there was a significant three-way interaction ($F(4.38, 2, 115.7)$, $p = 0.015$) for the former, no individual change overtime is significant. In contrast, there was a marginally non-significant $F(3.05, 2, 117.7)$, $p = 0.051$ corresponding to significant changes of equal but opposite magnitude in both hydration groups of the Placebo group only. The change observed for the euhydrated controls limits interpretation of that seen in the dehydrated group. Plotted data were generated from estimated marginal means with error bars showing 95% confidence intervals around the mean.

2.D. RI 4-way interaction 2.E. PI 4-way interaction



A significant Hormone:Hydration:Time:Restriction interaction was observed for both RI ($F(5.34, 2, 33.4)$, $p = 0.001$) and PI ($F(4.38, 2, 34.32)$, $p = 0.020$). For both measures, this corresponds to an apparent reversal of the direction of effect between first and second restrictions in the E2 group; however, the absolute magnitude of changes in the restricted groups are smaller than the largest observed for the euhydrated control group limiting interpretation of changes seen in the dehydrated groups. Plotted data were generated from estimated marginal means with error bars showing 95% confidence intervals around the mean.