

Abstract Submitted
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Human Pulmonary Diffusion Weighted Imaging at 0.2T with Hyperpolarized ^{129}Xe ¹ ADRIAN SINDILE, UNH, IGA MURADIAN, MIRKO HROVAT, CHRISTINA JOHNSON, WILLIAM HERSMAN, SAM PATZ — Unlike hyperpolarized ^3He inhalations, which achieve a high degree of gas mixture homogeneity due to the higher diffusion constant, hyperpolarized ^{129}Xe requires additional precautions to assure gas mixture homogeneity. A homogeneous concentration of Xe inside the human lungs is necessary to allow the use of ADC values as a reproducible measure of lung physiology and structure. To determine whether observed ADC differences are due to regional variations in Xe dilution, which would affect diffusivity, we measured ADC as a function of a number of exhaling/rebreathing cycles (breaths). The results of our investigations into these differences will be presented.

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