

Oral presentation

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## Evaluation of normal atrial contribution to left ventricular filling

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### Introduction

Atrial contribution to left ventricular filling has not been assessed by cardiac magnetic resonance volumetry.

### Purpose

To assess the normal atrial contribution to left ventricular filling.

### Methods

Normal subjects (No history of cardiovascular disease and had normal Echocardiography) underwent steady-state free precession CMR with retrospective ECG gating covering the whole cardiac cycle by 25 phases. The percentage of the left atrial contraction contribution in left ventricular filling was calculated as the difference between the LVEDV (defined as the first image after the R wave, TD = 0 ms) and the left ventricular volume just before the atrial contraction divided by the LV stroke volume. All volumes were assessed in 6 long axis slices for every study. All studies were reviewed by two readers where intraobserver and interobserver variability were checked.

### Results

120 studies were analyzed (60 males and 60 females). The contribution of LA systole in LV filling was as follows: For subjects < 35 years:  $20 \pm 5\%$ . For subjects 35 - 60 year old:  $35 \pm 5\%$ . For subjects > 60 year old:  $50 \pm 5\%$ . Figure 1

### Conclusion

The contribution of left atrial systole in left ventricular filling is highly dependent on age and varies between 20%

(age <35) and 55% (age >60). These data may have clinical implications for the assessment of diastolic function.

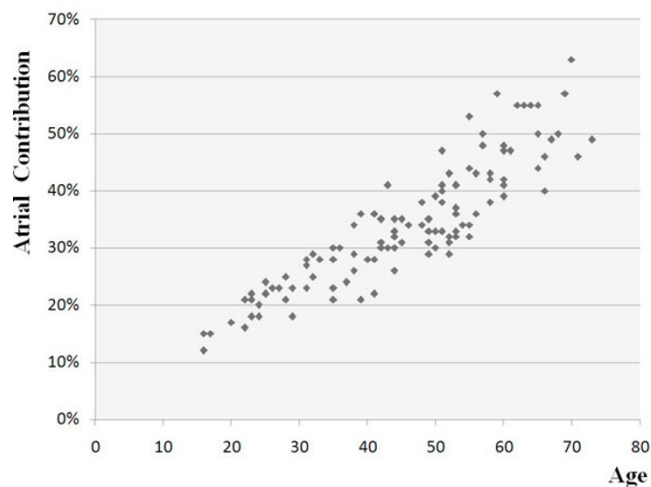


Figure 1