

### **Supplemental Figure 1.**

The Figure shows a patient with extra-cardiac activity. The white line illustrates the LV segmentation performed by the new method. The method is successful in separating the LV from extra-cardiac activity.

### **Supplemental Figure 2.**

Relationship between wall thickness by MRI and error in LVM when compared to MRI for the new method (A) and for QPS (B). The  $R^2$ -values were not significantly different. Note that LVM is overestimated in hearts with thin myocardium and underestimated in hearts with thick myocardium. The dashed line denotes zero error in LVM.

### **Supplemental Figure 3.**

The intensity over the myocardium in the radial direction for four different groups of the patients in the test set. The four groups were divided according to wall thickness by MRI: 6-9 mm (25 patients, 50 studies), 9-10 mm (20 patients, 40 studies), 10-11 mm (20 patients, 40 studies) and 11-13 mm (16 patients, 32 studies). The curves in the plot are the mean intensities in each group. Note that the intensity curves are very similar between the groups, which indicate the difficulty in separating myocardium of different wall thicknesses using a threshold determined by the image intensity.





