Supplementary Material

Table 1. The results of heart segmentation model, used to generate ROI masks for inference and training of the scar enhancement diffusion model.

Dice	IoU	Recall
0.92±0.09	0.87±0.11	0.93±0.09

Table 2. Results of the partial diffusion grid search. Analysis of the influence of the initial noising timestep on the final result supports the analysis from Fig. 1 in the main body of the paper. The results are only increasing until λ of around 150, after which we don't see much improvement in contrast enhancement and structure preservation metrics.

| λ	SSIM%↑	PSNR↑	LPIPS↓	CNR(scar,myo) ↑	CNR(scar,blood) ↑
50	95.04±7.04	41.13±18.23	0.05±0.07	4.16±1.92	1.08±1.23
100	95.46±6.80	41.92±17.44	0.05±0.06	4.69±2.32	1.41±1.52
150	95.57±6.74	42.33±17.23	0.04±0.06	4.78±2.33	1.53±1.61
200	95.59±6.72	42.37±16.97	0.04±0.06	4.83±2.38	1.61±1.67
250	95.66±6.54	42.51±16.89	0.04±0.06	4.86±2.43	1.66±1.75
300	95.66±6.52	42.44±16.76	0.04±0.06	4.85±2.41	1.68±1.79
400	95.60±6.59	42.42±16.72	0.04±0.06	4.82±2.40	1.71±1.81
500	95.59±6.53	42.41±16.68	0.04±0.06	4.89±2.49	1.72±1.84
Baseline	-	-	-	3.62±1.40	0.85±0.96
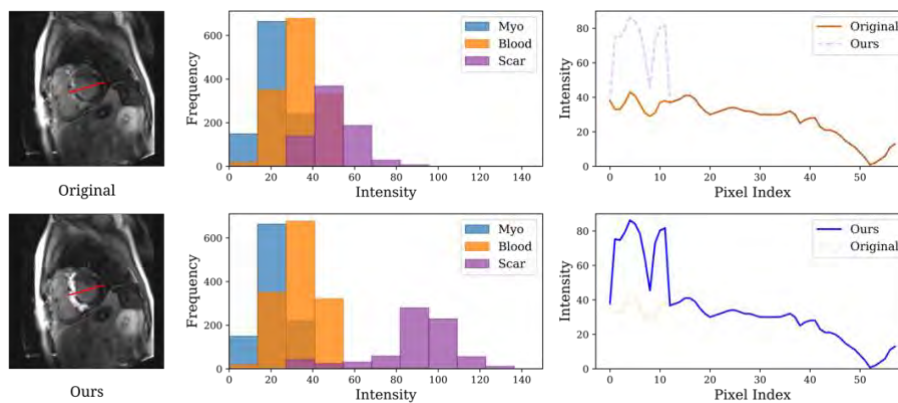
Fig. 1. Further analysis of the enhancement applied by our framework. First row of the figure represents the histogram and signal intensity across the ROI. We calculate the signal over a line going over the centers of blood pool and scar, as plotted on the images on the left. The second row represents the same experiment for the enhanced image of the same patient. The model is increasing the intensity of the scar regions, while not introducing any changes to the other regions.