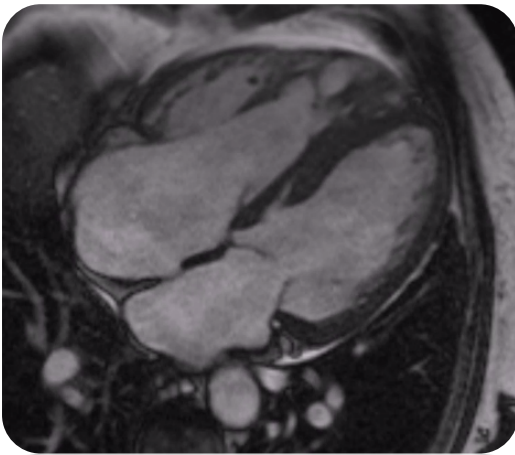


Cardiac MRI Essentials

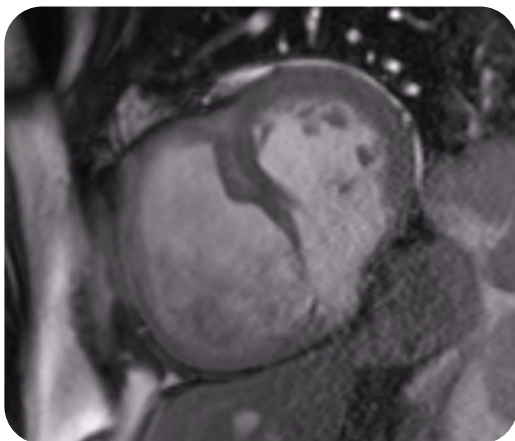
Ventricular septal defect

- In cases of VSD, CMR provides valuable information on:
 - Defect location, size, and anatomy
 - Left ventricular size and function
 - Right ventricular size and function
 - Evidence of volume/pressure overload
 - Shunt calculation.



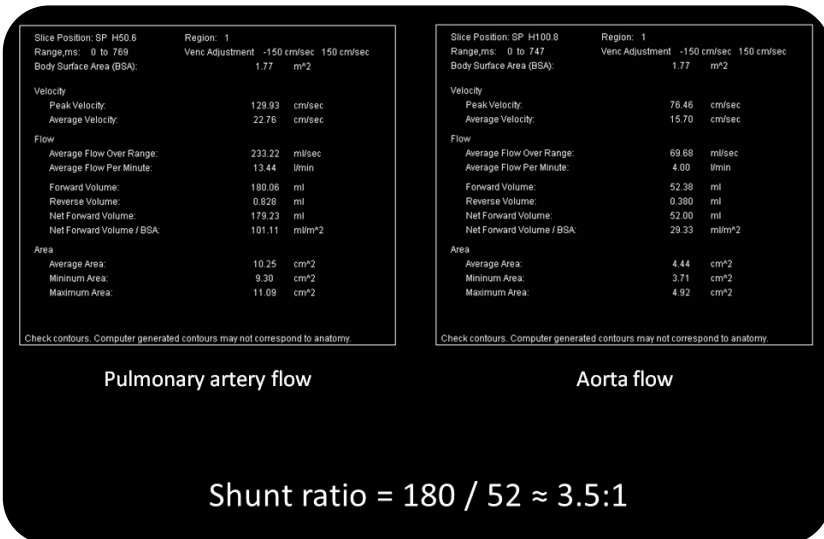
Post-infarct VSD: 4-chamber view

- Shows evidence of a defect in the interventricular septum
- Also shows right heart dilatation in keeping with volume overload

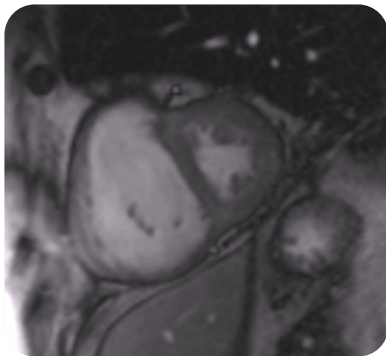


Post-infarct VSD: Short axis view

- Shows evidence of a defect in the basal inferoseptal segment
- This patient has sustained an inferior myocardial infarction



CMR allows quantification of the shunt ratio, from flow volumes in the pulmonary artery and aorta



Pulmonary hypertension

- In patients with pulmonary hypertension secondary to VSD, a D-shaped left ventricle (due to septal flattening) is evidence of right ventricular pressure overload

How do we assess VSD with CMR?

CMR assessment in ventricular septal defect should include:

- Description of VSD type, size, and location
- Quantification of left ventricular size and function
- Quantification of right ventricular size and function
- Assessment of evidence of volume/pressure overload
- Flow assessment (shunt ratio).

Further reading

EACVI CMR Pocket Guide: Congenital Heart Disease (2014) [[click here to access online](#)]