



# SCMR

## Level I Certification

**Level I** training is intended to provide introductory knowledge in cardiovascular magnetic resonance (CMR). Level I competency represents knowledge of the indications for and capabilities of CMR, but not to the extent that is sufficient for independent practice and clinical interpretation of CMR. The topics to be covered in Level I training are listed in Table 1.

Level I competency can be achieved by meeting the requirements of either Track A or B. Track A is tailored for fellows or residents in training, and Track B is designed for physicians who have completed medical training.

The mentored cases and time spent in training in Track A can also be applied towards meeting Level II certification requirements.

### **Track A (Formal fellowship or residency training)**

It is recommended that all training programs (cardiology, internal medicine, radiology, pediatric cardiology, and nuclear medicine) incorporate basic training in CMR to familiarize the trainee with the indications, methods and applications of CMR. Level I CMR competency can be achieved by meeting the following requirements, typically during the course of residency or fellowship training:

- A minimum of 1 month of cumulative (need not be consecutive) exposure to the methods and applications of CMR.
- Training must be under the aegis of a Level II or preferably Level III qualified mentor.
- Training must provide exposure to the topics listed in Table 1.
- Exposure to a minimum of 50 mentored cases.

Official SCMR certification of Level I competency may be sought by providing a letter from the trainee's laboratory director or qualified mentor verifying that the above requirements have been met.

### **Track B (Course-based training)**

This track is designed primarily for physicians who have completed medical training. Level I CMR competency can be achieved by meeting the following requirements, typically attained during a dedicated training course:

- The course must include a minimum of 2 full days of intensive, live instruction in the indications, methods, and applications of CMR.
- The course director must be Level II or preferably Level III qualified.
- The course must cover the topics listed in Table 1. These topics may be presented as both didactic lecture and as case studies.

Official SCMR certification of Level I competency may be sought by providing the course syllabus and a letter from the course director verifying that the above requirements have been met.

**Table 1: Topics to be covered in Level I training:**

- CMR safety: magnetic fields, contrast agents, and contraindications.
- MRI contrast agents; mechanisms and applications
- Flow imaging and quantitative analysis of velocity-encoded images
- CMR of cardiovascular structure and anatomy
- CMR of right and left ventricular function
- CMR of myocardial infarction, scarring, and viability assessment
- CMR of myocardial fibrosis and edema
- Pharmacologic stress testing with CMR
- CMR of vascular pathology, including aortic disease
- CMR of valvular heart disease
- CMR of pediatric and adult congenital heart disease
- CMR in cardiomyopathies and heart failure
- CMR in arrhythmia
- CMR of pericardial disease
- CMR for cardiac masses and tumors

*Approved by the SCMR Board of Trustees 11/15/2017.*