THE 13th INTERNATIONAL CONGRESS ON MRI &
30th ANNUAL SCIENTIFIC MEETING OF KSMRM &
7th ANNUAL MEETING OF ASMRM

ICMRI & ASMRM 2025

Illuminating the Invisible: Advances in MRI
OCTOBER 31 - NOVEMBER 1, 2025
Grand Walkerhill Seoul, Seoul, Korea
https://icmri.ksmrm.org/2025m/

JSMRM-KSMRM 1

Joint01-1

Cine Images

Chul Hwan Park

Gangnam Severance Hospital, Korea

Cine cardiovascular magnetic resonance (CMR) imaging constitutes the fundamental technique for the evaluation of cardiac morphology and function, providing unparalleled accuracy in assessing ventricular volumes, ejection fraction, and wall motion. Employing gradient-echo–based balanced steady-state free precession (bSSFP) sequences, cine CMR affords high spatial and temporal resolution with inherent blood–myocardium contrast, enabling comprehensive visualization of cardiac dynamics without the necessity for contrast enhancement. This session explicates the core principles of cine imaging, optimal acquisition strategies, and practical techniques for obtaining diagnostic-quality images. Critical factors influencing image quality comprise accurate ECG gating, breath-hold training, frequency shimming, and meticulous planning of imaging planes aligned with standardized cardiac axes. Artifact reduction through parallel imaging, banding artifact mitigation, and consistent breath-hold timing is essential to ensure reproducible measurements. Recent technological innovations, particularly compressed sensing (CS)–based real-time cine imaging, have substantially reduced acquisition time while maintaining quantitative accuracy, thereby facilitating full-cardiac-cycle imaging within a single breath-hold with high patient compliance. By integrating technical optimization with advanced acceleration techniques, cine CMR continues to establish itself as a robust and efficient modality for both clinical and research assessments of cardiac function.