



1 Background

While cancer survival has improved dramatically, therapies are often cardiotoxic. Early identification is crucial to avoid adverse outcomes.

2 Why CMR

- High diagnostic accuracy due to excellent image resolution.
- Good image quality independent of body habitus.
- One-stop shop: morphology, function, and tissue characterization.
- No ionizing radiation.

3 Suggested Management Strategy

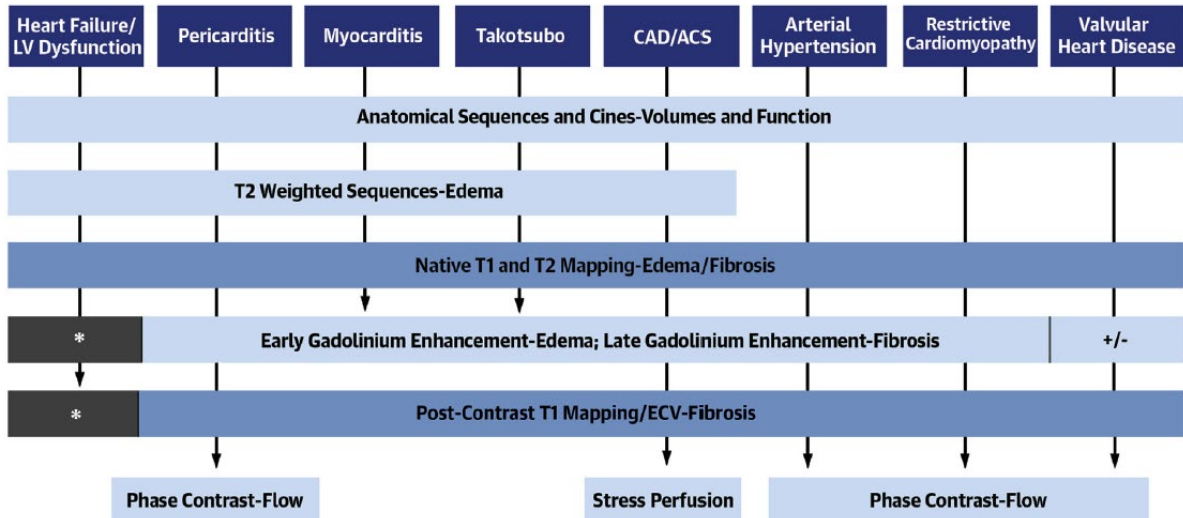
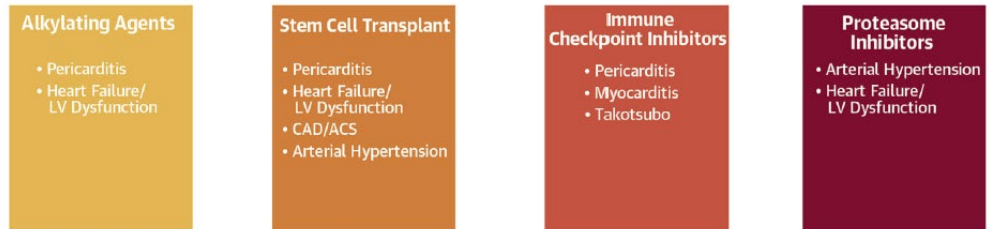
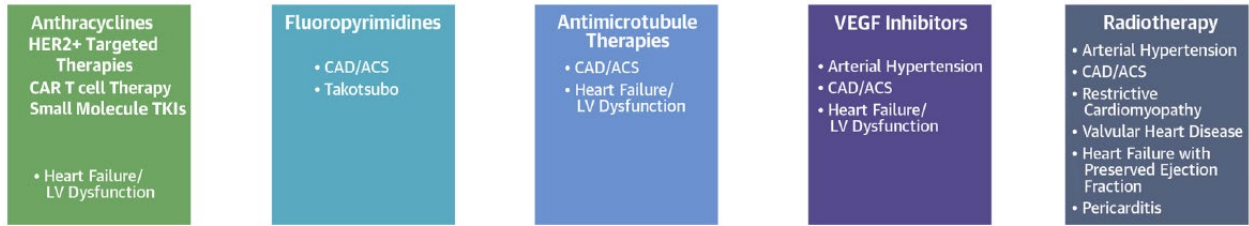
Cardiovascular Imaging in Contemporary Cardio-Oncology:
A Scientific Statement From the American Heart Association

Relative Timing of CMR to Cancer Treatment	Before	During	After
Unexplained heart failure	×	×	×
Recent myocarditis	×	×	×
Accurate LVEF	×	×	×
Valvular assessment before cancer treatment	×	×	×
Cardiac mass	×	×	×
Cardiac amyloidosis	×	×	×
Anthracyclines		×	×
HER2 Targeted		×	×
Immune Checkpoint Inhibitor		×	×
CAR-T cell		×	×
VEGF Inhibitor		×	×
BTK Inhibitor		×	×
Radiation		×	×
Stem Cell Transplant		×	×
Fluoropyrimidines (e.g. FU-S)		×	×



4 Cardiotoxicity and CMR Evaluation

JACC CardioOncology State-of-the-Art Review



KEY
 Recommended Aspirational * Contrast not mandatory for serial evaluation

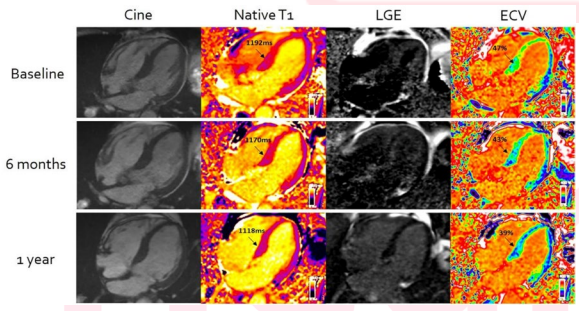
Harries I, et al. J Am Coll Cardiol CardioOnc 2022;2:270-292.



5 References

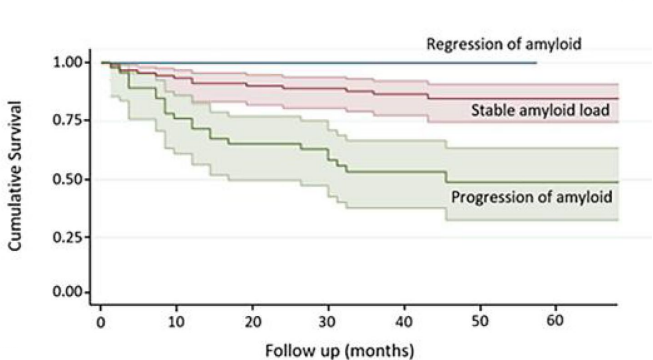
AL Amyloidosis: Monitoring Treatment Effect using Native T1 Mapping

Martinez-Naharro A, et al. Eur Heart J 2022;43:4722-4735



Example of patients with regressed myocardial amyloid by chemotherapy, demonstrated by serial CMR scans: shorter T1, less LGE, and lower ECV.

Survival function for CMR response at 6 months post-chemotherapy



ECV response to chemotherapy at 6 months (i.e. regression, stable, progression) showed significant difference in prognosis at 24 months and 36 months.