**A Cine MRI animation of myocardial motion:**

3-D reconstruction of a tagged MR image of the left ventricle. Images with horizontal tags are presented. Myocardial motion during the entire cardiac cycle (a), during the early diastole, (frames 10-20, b), and late diastole (frames 19-24, c) is shown. For clarity, LV was tilted so that the apex is at the bottom, base is on the top, and the diaphragm is in the right side. Note the angular motion of the tags, during the early diastole (frames 10-20) both in the horizontal and the longitudinal planes, associated with release of shear in these planes (indicated by Ecr and Ecl), and untwisting. Changes in shear precede changes in volume and LV circumference (indicated by Ecc) shown in slide c (frames 19-24).

**Captions:**

a. Myocardial torsion and relaxation: a complete cardiac cycle.

b. Release of torsion during early relaxation (Time frames 10-20)

c. Volume change in late time frames (Time frames 19-24)