Dynamic contrast enhanced (DCE) MRI is the most sensitive imaging technique for detecting breast cancer. Unfortunately, breast DCE MRI is primarily recommended for high risk or patients already diagnosed with breast cancer. As a result, relatively few women benefit from this powerful imaging modality. Our goal is to ultimately increase patient access to screening breast MRI by creating a single abbreviated imaging sequence. Our approach provides simultaneously high spatial and temporal information of the brief but very important early enhancement phase. We aim to offer breast researchers with a capability to extract all the diagnostic and lesion characterization data possible out of the early enhancement phase.