The image quality is very important for Magnetic Resonance Imaging (MRI). There are several factors that can degrade image quality. One of these factors is the artifacts. MRI artifacts are irregularly noted on MR image, rather than an anatomical or physiological abnormality. These artifacts may occur during each of scanning process, from data acquisition through image display. Various artifacts are associated with MR scanning. The objectives of this study are to extend present knowledge and to reveal the causes or sources of MRI artifacts as well as to select and use appropriate reduction techniques for some artifacts. The data sources of study are from literature reviews. The principals including basic physics such as spin physics, imaging principles, Fourier transform imaging, imaging pulse sequences techniques and imaging hardware and advance imaging techniques as well as practical considerations in MR imaging were reviewed to gain theoretical background. Then the selected relevant articles about any MRI artifacts and their reduction techniques were studied and analyzed.

The results of study are revealed that the MRI artifacts are caused mainly from 3 sources 1). the instrument 2). data acquisitions or imaging techniques and 3). the patient's physiologic motion. Reduction of these artifacts can be obtained by employing an appropriate hardware for instrument-related artifacts, suitable software for data acquisition-related artifacts and appropriate techniques for the reduction of motion artifacts.

However, at the present several artifacts remain unresolved and problematic. These results suggest further development of advanced reduction techniques that is necessarily for the better correction or elimination of these MRI artifacts.