

# **Applying Six Sigma methodology to maximize magnetic resonance imaging capacity in a hospital.**

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摘要

## **Abstract**

The aim of this study was to maximise magnetic resonance imaging(MRI)capacity by applying Six Sigma methodology in a hospital.In the initial study(I)we recruited 48 patients who underwent MRI examination in our department.Two major root contributorsto the examination time(position and scan)were considered prolonged.In study II(n=143 patients)the MRI examination items were changed(from mixed to convergent)in each scheduling slot.The imaging protocols were revised in study III(n= 173).Our targetwas to reduce the examination time by three minutes for each patient.The results of our study showed that the average examination time was 32,30,and 27 minutes for each patient in studies I,II,and III,respectively.Each patient saved an average of five minutes in study III versus study I(P =0.015).The process capability was improved from 1.04 to 2.15 sigma.Applying Six Sigma methodology enables an 18% increase in patient throughput for MRI examinations.