



Kerman University of Medical Sciences

**A Thesis Presented to
The Graduate Studies**

**Cost-utility analysis of percutaneous and surgery methods in
extraction of cardiac leads**

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Abstract :

Introduction: Cardiovascular diseases are currently major concern in the world and It is expected that Until 2030, 7 out of 10 deaths in world will be related to cardiovascular diseases. Despite the increase in Pasemaker and ICD implants in recent years, the complications of this devices are increasing. One of the most important complications is the pulsating lead infection. The purpose of this study was to analyze the cost-effectiveness of percutaneous and surgical method in extracting pacemaker leads with Qaly index.

Methods: In this cross-sectional study (descriptive-analytical) using the Markov model, for comparing the two methods of percutaneous and surgery for infectious lead. Sampling was census and (sample size for percutaneous included 57 people) and information about utility was extracted by the SAQ questionnaire. A systematic review was performed to calculate utility of the surgical Cost from the perspective of the service provider. data analysis by SPSS software, and TreeAge software was used for Markov modeland and sensitivity analysis .

Results: Changes in quality of life score in both intervention were incremental and significant and intervention is the only effective factor in changes in quality of life score ($P < 0.05$). The ICER was 5470.44\$.

Conclusion: The results of the study show that utility and cost of surgery are higher than the percutaneous method. Sensitivity analysis shows If the cost of surgery increases more than 806.52\$ (discount rate of 0.06), the percutaneous method dominates the surgery method.

Keywords: Cost-utility analysis, Percutaneous , Surgery, Lead infection, QALY