Summary

Microeconomics of Introduction of a PET System Based on the Revised Japanese National Insurance Reimbursement System

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It is crucial to evaluate an annual balance beforehand when an institution installs a PET system because the revised Japanese national insurance reimbursement system set the cost of a FDG PET study as 75,000 yen. A break-even point was calculated in an 8-hour or a 24-hour operation of a PET system, based on the total costs reported. The break-even points were as follows: 13.4, 17.7, 22.1 studies per day for the 1 cyclotron-1 PET camera, 1 cyclotron-2 PET cameras, 1 cyclotron-3 PET cameras system, respectively, in an ordinary PET system operation of 8 hours. The break-even points were 19.9, 25.5, 31.2 studies per day for the 1 cyclotron-1 PET camera, 1 cyclotron-2 PET cameras, 1 cyclotron-3 PET cameras system, respectively, in a full PET system operation of 24 hours. The results indicate no profit would accrue in an ordinary PET system operation of 8 hours. The annual profit and break-even point for the total cost including the initial investment would be respectively 530 million yen and 2.8 years in a 24-hour operation with 1 cyclotron-3 PET cameras system.

Key words: Positron emission tomography (PET), Fluorodeoxyglucose (FDG), Cost-benefit analysis.