



# The impact of clinical pathways applied in thyroidectomy on medical resources utilization

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## Introduction

Impact of Clinical Pathways Apply in Thyroidectomy on Medical Resources Utilization. We performed the analysis by controlling the effect of the characteristics of the patient, disease and physician. Aimed to evaluate the utilization and the variance of the medical resource after the application of the clinical pathways for the thyroidectomy.

## Methods

A total of 376 case-payments of the thyroidectomy were evaluated. Study resource was retrieved using the claims database of a medical center including the information of the hospital insurance payment, the detail of the medical records and the physician profile. This observation study of repeated design was performed to compare before and after the application of the clinical pathways within and between the experimental group, the department of the General Surgery and the control group, the department of the Otolaryngology.

## Results

That after the application of the clinical pathways, the reduction in length of stay (31.9%) and in medical expenditure (14.98%) . Moreover, the medical resource utilization in the department of otolaryngology without application of clinical pathway was significant higher than the department of General Surgery with the application of clinical pathway. In thyroidectomy with application of clinical pathway significantly decreased than before the application of clinical pathways and was also lower than the otolaryngology group without application of clinical pathways.

**Table** Results of regression analysis for hospital charges using the enter method.

Variables	Model 1	Model 2	Model 3
Intercept	47771***	395875	365627
Patient sex	991	1,269	1,763
Patient age	-804*	-814*	-808*
Patient age squared	10**	10**	10**
Malignant neoplasm of the thyroid gland vs. other diagnostic results	2849	2475	3,254
Benign neoplasm of the thyroid gland vs. other diagnostic results	-3,997	-3,805	-4,126
Thyroid lobectomy vs. total thyroidectomy	651	187	1,525
Partial thyroidectomy vs. total thyroidectomy	-1019	-1598	-833
CCI score	3,469***	3,366***	3,304***
Surgeon		-15,858	14,822
Surgeon age squared		163	148
Surgeons' service years		4,486	5,522
Surgeons' service years squared		-133	-156
GS group before clinical pathway implementation vs. GS group after clinical pathway implementation			6,209*
ENT group vs. GS group after clinical pathway implementation			5,616
	R <sup>2</sup> =0.121 p < .001	R <sup>2</sup> =0.128 p < .001	R <sup>2</sup> =0.150 p < .001

\* p < .05, \*\* p < .01, \*\*\* p < .001.

## Conclusions

That after the application of the clinical pathways, there was a significant decrease in length of stay and in medical expenditure. Further studies are suggested to look more in-depth into the relevant issues on the real cost-effectiveness and the cost transfer to the Outpatient Department.

**Key word:** thyroidectomy, clinical pathway, medical resource utilization, medical adverse event, case payment

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