

Title: PCA: IS IT COST EFFECTIVE WHEN USED FOR POSTOPERATIVE PAIN MANAGEMENT?

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Introduction. Numerous articles have been published concerning patient controlled analgesia (PCA). These articles have shown that patients that use PCA are more likely to ambulate earlier, have decreased incidents of respiratory complications², decreased instances of ileus¹, and report less pain when compared to the traditional method of PRN intramuscular administration of narcotics³. Patients are also more accepting of PCA therapy as compared to intramuscular administration of narcotics⁴. These clinical studies have also reported that patients have decreased incidents of sedation³, yet have more ideal analgesia³. Because of DRGs and various cost pressures now faced by hospitals, we undertook the present study to attempt to prove that PCA is also cost effective.

Methods. We retrospectively tabulated both cost and days spent in the hospital for consecutive patients a year prior to, and the first year after, introduction of PCA to our institution. The patients were consecutive, controlled for the same surgeons, and also included approximately the same number of patients. The surgical procedures investigated were thoracotomy for lobectomy or pneumonectomy, cholecystectomy, and lumbar laminectomy. We tabulated both the cost of the patients stay and their length of hospitalization. The results were then statistically analyzed using a Students T Test.

Results. Refer to tables. A total of 101 patients without PCA and 70 patients with PCA were involved in our study. The differences in cost between the two groups had a standard deviation of 2.353 with $t < 0.05$. The difference in days stayed had a standard deviation of 2.353 with $t < 0.05$.

Discussion. Our retrospective study was statistically significant for both a decrease in patients stay and hospital cost when PCA was used instead of PRN intramuscular narcotics. PCA has been used as a research tool to measure pain. In our study, the largest differences were found in the procedures that have been associated with the most pain. In today's reimbursement environment, it is important to not only show that new technology is effective but that it is also affordable. This is especially important today because of DRGs. In our study, PCA was cost effective. Larger clinical studies will be needed to further define the effects of good pain management and postoperative recovery.

References.

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DAYS DATA

Procedure	Average Days				D
	Non-PCA	(n ¹)	PCA	(n ²)	
Lumbar Laminectomy	15.8	17	11.7	9	4.1
Cholecystectomy	11.3	25	9.4	15	1.9
Thoracotomy	18.4	20	13.8	5	4.6
GYN	6.6	39	7.1	42	-0.5
					±D 10.1

COST DATA

Procedure	Average Cost				D
	Non-PCA	(n ¹)	PCA	(n ²)	
Lumbar Laminectomy	\$ 9,257	17	\$ 8,225	9	\$1,032
Cholecystectomy	8,876	25	7,892	15	984
Thoracotomy	20,626	20	18,891	5	1,735
GYN	5,409	39	6,300	42	-891
					±D \$2,860