A Chart Audit of Postoperative Pain Assessment and Documentation: The First Step to Implement Pain Assessment as the Fifth Vital Sign in a University Hospital in Thailand

Laksamee Chanvej MD*, Wongchan Petpichetchian PhD, RN**,
Nalinee Kovitwanawong MD*, Chirapha Chaibandit MD*,
Chamaporn Vorakul RN***, Tasanee Khunthong RN*

** Department of Anesthesiology, Faculty of Medicine, Prince of Songkla University*
*** Department of Surgical Nursing, Faculty of Nursing, Prince of Songkla University*
**** Nursing Service Unit, Songklanagarind Hospital, Prince of Songkla University*

Purpose : *To describe the documentation of pain assessment and management in the first 72 hrs postoperatively.*
Designs*: Retrospective descriptive study*
Material and Method : *Four hundred and twenty five hospital charts in December 2002 were audited to reveal the quality of postoperative pain assessment and documentation. Scores above 21 from the possible maximum of 28 (75%) were accepted for the review.*
Results : *Nurses documented pain assessment more often than doctors (98.8% vs 29.4%). An assessment of pain intensity using a numerical rating scale (0 to10) was found in 192 (45.2%) charts, and using a pain descriptor scale in 408 (96%) charts. The documentation of pain both before and after giving analgesics was scarce during the first 3 days postoperatively. Apart from charts that used a patient-controlled analgesia (PCA) technique which had a specific record form, regular pain assessment every 2 to 4 hrs during the first 24 hrs was found in only 2 (0.5%) charts. Pain assessment items which were documented inconsistently and below accepted standards were pain assessment after administration of analgesics, pain assessment every 2 hours in the first 24 hours (day 1), and pain assessment thereafter every 4 hours in the first 24-72 hours (days 2 and 3). The other 4 of 7 audit pain items were documented in higher scores: initial patients' pain intensity and sedation assessment, pain treatment, continuity of pain assessment and pain assessor's name scores. Nevertheless, because of the low total audit score [mean $\pm$ SD = 10.7 $\pm$3 out of 28], it was considered that none of the reviewed charts reflected good quality pain assessment and documentation.*
Conclusion : *The present study revealed that the existing practices of pain assessment and documentation were poor. The need for development of regular pain assessment as if pain is the fifth vital sign should be widely emphasized as a part of quality assurance.*

Keywords : *Chart audit, Fifth vital sign, Pain assessment and documentation, Postoperative pain*

J Med Assoc Thai 2004; 87(12): 1447-53
Full text. e-Journal: *http://www.medassocthai.org/journal*

Although many advances have been made in the pathophysiology of acute pain and the development of new analgesics and delivery techniques, many patients still suffer moderate to severe postoperative pain[1,2]. Many studies have attributed the cause of this problem to lack of knowledge and poor attitude of both health care personnel and patients, and also the lack of a pain management team[3]. Traditionally, patients have accepted pain as an inevitable part of their postoperative experience, also physicians and nurses have often shown little interest in reports of unrelieved pain from patients.

Challenging the standard quality of care of acute postoperative pain has been guided by the Joint Commission on Accreditation of Healthcare Organi-

Correspondence to : Chanvej L, Department of Anesthesiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.

zations (JCAHO), an organization that sets healthcare standards in the US. The JCAHO promotes the idea that patients have a right to assessment and management of their pain, and patient pain intensity should be routinely documented before and after treatment. Documentation also provides data for audit and facilitates review and improvement of care. Quality assurance measures can no longer be ignored.

The present survey study examined pain assessment practices and documentation at one university hospital in Thailand. It reports results of the first phase of the upcoming study in order to establish baseline information for comparison after a pain assessment and documentation program in the second phase was implemented.

Material and Method

A retrospective approach was used to collect data on pain assessment and documentation from hospital charts. An adequate sample size to accurately indicate the documentation of pain assessment was determined to be 384 hospital charts, with a 95% confidence interval and absolute precision of 0.05 for one sample. To allow for missing samples, 10% was added, with 424 charts finally audited.

From the 12-month period in the year 2002, the anesthetic records in December 2002 were randomly sampled for the study. Of patients over 15 years of age, and admitted to the hospital after surgery, 425 of 880 anesthetic records were reviewed. All types of surgery except intracranial surgeries, tracheostomies, burn debridement procedures and central line insertions or arterial venous shunts were included. Also excluded were patients who were admitted to the intensive care or burn units, patients who had a hospital stay of less than 3 days, who had been re-operated on within 3 days, or whose charts were not available or missing.

After obtaining permission from the Hospital Ethics Committee, the 425 hospital charts were reviewed by 2 registered nurses who were not involved in the documentation of these charts (one was working in a non-surgical ward, the other in the intensive care unit), and trained by the researchers. The review was performed using 2 parts of the data record form, the patients' demographic data and the audit form with regard to documentation of pain.

The audit form was a 7-item, 0-4 point, Likert-type-scale tool that was originally developed by Nachoy, Petpichetchian, and Hirundchunha[4]. Zero (0) points were given for an item with no record and a full score of 4 was given for an item with evidence of accuracy, completeness, comprehensiveness and clarity (1 point each) of documentation. The possible range of scores for each chart was thus 0-28. For assessing the quality of each chart, the scores were divided into 4 levels, 0-6= very poor, 7-13 = poor, 14-20 = fair and 21-28 = good. Scores above 21 (75%) were accepted for the review. The audit tool was used after evaluation of the content validity by experts and testing reliability verified by Cronbach's alpha coefficient of 0.87.

Results were recorded as number (percentage), mean $\pm$ SD and range. The Statistical Package for the Social Sciences for Windows (SPSS) was used. Chi-square or Fisher's Exact test were used where appropriate for the categorical data. McNemar's Chi-square was used for the relative difference of the matched data from different days. A probability of less than 0.05 was taken to be significant.

Results

Sample characteristics

The charts were from 268 (63.1%) female and 157 (36.9%) male patients with mean ages of 42.97 $\pm$ 16.84 and 50.45 $\pm$ 20.35 years, respectively. Intra-abdominal surgery was the most common type of surgery (Table 1). The mean (range) duration of surgery was 136 (10-580) minutes. Techniques of anesthesia were general anesthesia (51.8%), regional anesthesia (44.0%) and combined anesthesia (4.2%). The major analgesic prescriptions used during the first 24 hours following surgery were mainly opioids (87%) (Fig. 1). Paracetamol was the most common oral analgesic prescribed on the second (52.2%) and third days (54.1%) postoperatively. There were significant differences in the proportion of the charts with opioid and non-opioid use between the first and second days ($P < 0.0001$), the second and third days ($p = 0.0002$) and the first and third days ($P < 0.0001$). Invasive delivery routes such

Table 1. Types of surgery

	N (percentage)
Intra-abdominal	148 (34.8)
Extremities/ back/spine	87 (20.5)
Eye, ENT, neck, superficial	66 (15.5)
Endoscopic surgery	50 (11.7)
Perineum/inguinal	43 (10.1)
Kidney surgery	10 (2.4)
Intra-thoracic	5 (1.2)
Intra-abdominal + inguinal/scope	10 (2.4)
Superficial + extremities/scope	6 (1.4)
Total	425 (100)

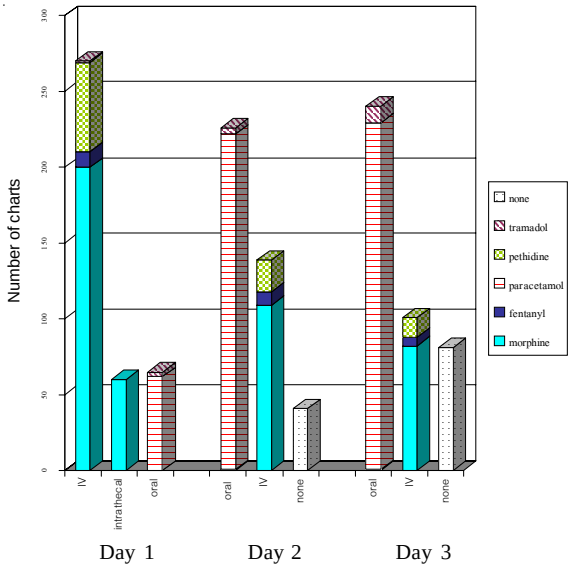

Fig. 1 The three major routes and analgesic medications prescribed in the first 3 days after surgery

as intravenous and neuraxial (84.7%) were the main ways of giving analgesia on the first day (Table 2).

The evidence of using pain assessment tools

Four hundred and twenty one (99.1%) charts were identified as having at least one of the pain assessment tools. Pain intensity using a numerical rating scale (0-10) was found in 192 (45.2%) charts and a pain descriptor scale was used in 408 (96%) charts. There were 4 charts without any record of pain intensity; 3 of the 4 charts were intra-abdominal surgery and the other was orthopedic surgery (extremities). One hundred and twenty eight (30%) charts were found with pain assessment tools in both the nurse's and medical progress notes. Only 29.4% of the attending physicians documented their patients' pain, whereas 98.8% of the nurses documented pain assessment.

Patterns of pain documentation during the first 3 days after surgery

Determining patterns of pain assessment practices through auditing pain documentation from the charts revealed the following:

Documentation in the first day (first 24 hours) after surgery

Only 42 (9.9%) charts were found to have

Table 2. The number of routes and analgesics used in the first 3 days

Routes	Analgesics						
	Morphine	Pethidine	Fentanyl	Tramadol	Paracetamol	None	Total
Day 1 (0-24 hrs)							
IV	200	59	10	1	-	-	270
IV-infusion	6	-	-	-	-	-	6
PCA	5	1	-	-	-	-	6
IM	-	1	-	1	5	-	7
Continuous epidural	8	-	-	-	-	-	8
Epidural-bolus	2	-	-	-	-	-	2
PCEA	1	-	-	-	-	-	1
Intrathecal	60	-	-	-	-	-	60
Oral	-	-	-	3	62	-	65
total	281	61	10	5	68	0	425
Day 2 (24-48 hrs)							
IV	109	21	9	-	-	-	139
IV-infusion	5	-	-	-	-	-	5
PCA	5	-	-	-	-	-	5
IM	-	1	-	2	1	-	4
Continuous epidural	5	-	-	-	-	-	5
Oral	1	-	-	4	221	-	226
None	-	-	-	-	-	41	41
total	125	22	9	6	222	41	425
Day 3 (48-72 hrs)							
IV	82	13	6	-	-	-	101
IV-infusion	1	-	-	-	-	-	1
IM	-	-	-	-	2	-	2
Oral	1	-	-	11	228	-	240
None	-	-	-	-	-	81	81
total	84	13	6	11	230	81	425

pain assessment recorded before analgesics were given to the patients, and only 44 (10.4%) charts had pain reassessed after analgesics were given. Reviewing how often pain assessment was done for an 8-hour shift, it was revealed that pain was documented only once in more than 4 hours in most of the charts (97.9%).

Documentation in the second day (first 24-48 hours) after surgery

Continuing to be under-documented, pain assessment was recorded before and after analgesics were given to patients in quite a low percentage, only 22 (5.2%) and 24 (5.6%) charts, respectively. Three hundred and seventy six (88.5%) charts had pain documentation only once a shift and 44 (10.4%) charts had no documentation at all.

Documentation in the third day (first 48-72 hours) after surgery

The pattern of pain documentation on the third postoperative day shows a decreasing number of pain records both before and after analgesics were given (1.6% equally). The number of charts with no pain record during a shift increased to 72 (16.9%) charts.

Documentation of nursing activities provided for managing pain

Charts were reviewed whether or not nursing activities provided for managing pain were recorded. Nurses documented providing analgesics (84.9%), non-pharmacological intervention (3.5%), and consultation/notification to the attending physicians regarding pain problems (0.7%). Approximately 10% of the charts had no evidence of nursing response to patient pain.

Documentation of analgesic side effects and effectiveness of pain management modalities

In order to determine whether or not nurses followed up or evaluated the effectiveness of nursing activities offered to the patients, the chart records were reviewed. It was found that more than three-fourths (77.6%) of the charts had documentation of analgesic side effects and patients' well-being (e.g. able to rest, comfortable). Nevertheless, pain assessment (intensity, in particular) after non-pharmacological intervention was given was not revealed in all charts.

Quality of nursing documentation regarding pain assessment and management (during the first 3 days after surgery)

The quality of nursing documentation regarding pain assessment and management was audited on an audit form. Most of the charts (68.5%) were of poor quality and 21.1% were fair (Table 3). Using a cutoff point of 21 out of 28 points (or 75% of the total possible score), it was found that none of the reviewed charts met the criterion, with a total score of 10.7 $\pm$ 3 points (Table 4).

Each audit item was carefully reviewed (Table 4). The highest percentage (99.5%) with a score of 0 was found in 3 items; pain assessment after administration of analgesics, pain assessment every 2 hours in the first 24 hours (day 1), and pain assessment thereafter every 4 hours in the first 24-72 hours (days 2 and 3) with mean scores of 0.009 $\pm$ 0.14, 0.012 $\pm$ 0.17, and 0.012 $\pm$ 0.17 points, respectively. The other 4 items, initial patients' pain intensity and sedation assessment, pain management, continuity of documentation, and pain assessor' s name, had higher scores (mean $\pm$ SD; 2.73 $\pm$ 1.03, 2.65 $\pm$ 1.32, 2.54 $\pm$ 0.9 and 2.74 $\pm$ 0.46 points, respectively). The criteria of accuracy, com-

Table 3. Quality level and total score of pain assessment records

Total score (quality level)	N (percentage)
0-6 (very poor)	44 (10.4)
7-13 (poor)	291 (68.5)
14-20 (fair)	90 (21.1)
21-28 (good)	0

Table 4. Scores of each item of pain documentation

Items	Scores					Mean $\pm$ SD
	0	1	2	3	4	
Initial pain intensity and sedation assessment	1(0.2)	67 (15.8)	90(21.2)	153(36)	114(26.8)	2.73$\pm$1.03
Pain management	40(9.4)	43 (10.1)	99(23.3)	85(20.0)	158(37.2)	2.65$\pm$1.32
Pain assessment after giving analgesics	423(99.5)	0	2(0.5)	0	0	0.009$\pm$0.14
Every 2 hrs assessment in 0-24 hrs	423(99.5)	0	1(0.2)	1(0.2)	0	0.012$\pm$0.17
Every 4 hrs assessment in24-72 hrs	423(99.5)	0	1(0.2)	1(0.2)	0	0.012$\pm$0.17
Continuity of documentation	5(1.2)	39 (9.2)	171(40.2)	143(33.6)	67(15.8)	2.54$\pm$0.9
Pain assessor's name	0	1 (0.2)	112(26.4)	310(72.9)	2(0.5)	2.74($\pm$0.46)
Total score						10.7($\pm$3)

Data shown as number (percent) and mean $\pm$ SD

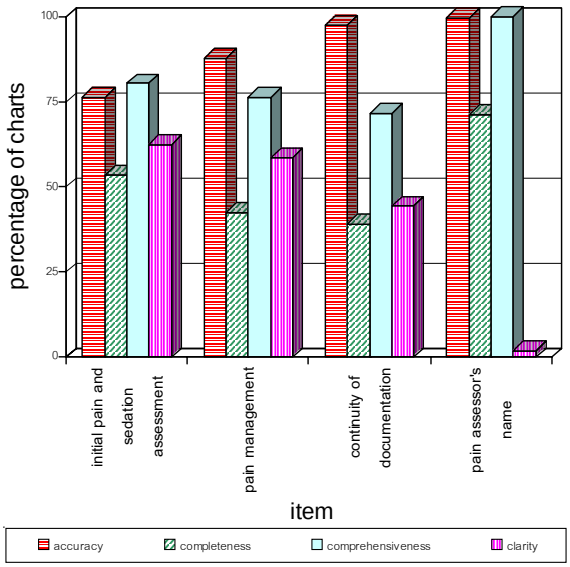

Fig. 2 The percentage of patient charts that met the criteria of accuracy, completeness, comprehensiveness, and clarity in patients' pain intensity and sedation assessment, pain management, continuity of documentation, and pain assessor's name

pleteness, comprehensiveness and clarity of documentation used to determine the quality of documentation presented in the latter 4 items was specified (Fig. 2). It was found that less than 75% of charts had the characteristics of completeness and clarity in all of these items. The lowest percentage (1.9%) was found in the clarity of item "pain assessor's name".

Discussion

Nurses play a pivotal role in pain management as they provide 24-hour services. The present study found that most nurses in the reviewed charts used a pain descriptor scale as a tool to assess the pain score. A numerical rating score, which was introduced as a tool for assessing pain more than 10 years ago in Songklanagarind Hospital remained less documented and is used only informally.

The patient charts reviewed in the present study reflected less documentation of pain assessment and management activities than expected. No matter how good the care that nurses and physicians provide to the patients, if there is no documentation, evaluation of good clinical practice cannot be demonstrated. The documentation of pain assessment, pain management and evaluation of its effectiveness is essential to physicians, nursing staff, and administrators, to make them aware of the status of pain management in their clinical area[5]. The problem of inadequate documentation is a mirror of inadequate pain assessment because if attending health care personnel do not consider it as important, they will not assess or document it accordingly. The findings of the present study confirm what has been reported in the literature from Western countries[6,7]. Evidence-based clinical pain guidelines suggest that pain should be assessed and reassessed on a regular basis to ensure that the individual's pain is being relieved[8-10]. The standard practice for acute postoperative pain is that pain should be assessed every 2 hours during the first 24 hours postoperatively. Pain should also be assessed prior to giving analgesics, 15-30 minutes after analgesics are given parenterally and 60 minutes after analgesics are given orally. During the second and third days following surgery, pain should be continually assessed every 4 hours. Unfortunately, the findings of the present study revealed inadequate practice, i.e. only approximately 10% of postoperative pain episodes were recorded prior to giving analgesics during the first day and the numbers declined each day following. Also quite small amounts of pain assessment were recorded after giving analgesics.

Regarding the nurses' responses to pain, 85% of charts documented by nurses implied that giving analgesics was a primary response. This is very practical in clinical areas where analgesics, especially opioids, are the backbone of pharmacological intervention[11]. Only 3.5% of charts found that nurses responded to their patients' pain using non-pharmacological interventions (e.g. distraction, changing position, warm or cold compress). The small percentage of nurses who responded and recorded non-pharmacological interventions might be due to many reasons, such as personal concern that acute pain might not respond well to non-pharmacological interventions, or the nurse might have little confidence in her ability to perform these actions efficaciously[12], or they do respond but without recording their action. Less than 1% of charts indicated that nurses consulted or notified the attending physicians regarding the patients' pain. This finding must be interpreted cautiously as it might be that the prescribed analgesics were adequate and pain was controlled satisfactorily, or nurses were not aware of their role in monitoring the efficacy of pain management, or that they may need to continually monitor drug titration and adjust it until the pain is acceptably managed.

The quality of pain documentation found in the present study is below acceptable standards. There was not a single chart that rated a score of more than

21 out of 28 points (75%). Three items of assessment and ongoing assessment indicate that these areas need to be emphasized and personnel educated in their use and importance. Assessment both before and after analgesic administration is crucial for use as baseline information, and a comparison to determine the effectiveness of medication. Also, continued assessment on a fixed-schedule[13] enables nurses and physicians to determine whether prescribed medication needs to be titrated. Once documented, the data conveyed in the patients' charts must be accurate, complete, comprehensive, and clear, otherwise they are useless or problematic if legal attention becomes an issue. Using these 4 criteria to quantify the quality of pain documentation, the authors found that lack of completeness and clarity were major problems.

Although pain assessment is considered a fundamental step to effective pain management, practically it has not been well implemented. Examing how health professionals, nurses in particular, actually have done so by "chart audit" would illuminate clearer picture. According to many international standard protocols on pain, prioritizing pain as the fifth vital sign has been well accepted for its benefit to improve the practice of pain assessment and documentation.

The present study is descriptive in nature which the authors would like to present an "evident" that the problem of incomplete assessment and documentation regarding pain and its management exists. As a result, this evident can be used to guide the next step of our implementation. The second phase of a larger study is during conducted and a complete result will be reported after processing. A full picture of the effectiveness of implementing pain assessment as the fifth vital sign on care providers and patient outcomes will be clearly identified.

Conclusion and Implications

Given the nature of the present study, caution should be used in generalizing the results. The present study was conducted in one institution of Thailand. Results of the study will be used as baseline information for an ongoing project on "Development of Postoperative Pain Assessment and Documentation".

Findings from the present study do suggest that nurses may 1) have inadequate knowledge regarding pain, pain assessment and documentation in particular, and 2) not have direction and guidance for assessment and documentation (i.e., lack of pain record forms, protocol). Attempts to initiate change for individual nurses and clinical settings should be developed in order to overcome such problems, as pain management cannot be effectively undertaken without effective pain assessment and documentation.

References

1. Dolin SJ, Cashman JN, Bland JM. Effectiveness of acute postoperative pain management: I. Evidence from published data. Br J Anaesth 2002; 89: 409-23.
2. Svensson I, Sjostrom B, Haljamae H. Assessment of pain experiences after elective surgery. J Pain Symptom Manage 2000; 20: 193-201.
3. Rawal N.10 years of acute pain services: achievements and challenges. Reg Anesth Pain Med 1999; 24: 68-73.
4. Nachoy S, Petpichetchian W, Hirundchunha S. Development of a pain assessment protocol for postoperative intubated patients. A Poster presented at the First International Pain Symposium: Golden Triangle Pain Symposium 2003; Nov 1-4, Chiangrai.
5. Stenger K, Schooley K, Moss L. Moving to evidence-based practice for pain management in the critical care setting. Crit Care Nurs Clin North Am 2001; 13: 319-27.
6. Briggs M, Dean KL. A qualitative analysis of the nursing documentation of post-operative pain management. J Clin Nurs 1998; 7: 155-63.
7. Dalton JA, Blau W, Carlson J, Mann JD, Bernard S, Toomey T, et al. Changing the relationship among nurses' knowledge, self-reported behavior, and documented behavior in pain management: does education make a difference? J Pain Symptom Manage 1996; 12: 308-19.
8. Max MB, Payne R, Edwards WT, Sunshine A, Inturrisi CE. Principles of analgesic use in the treatment of acute pain and cancer pain. 4th ed. Glenview, IL: American Pain Society, 1999.
9. Agency for Health Care Policy and Research, Public Health Service, US Department of Health and Human Services. Acute Pain Management Guideline Panel: acute pain management: operative or medical procedures and trauma. Clinical practice guidelines. AHCPR Publication: US Public Health Service, 1992.
10. American Pain Society, Quality of Care Committee. Quality improvement guidelines for the treatment of acute pain and cancer pain. JAMA 1995; 274: 1874-80.
11. Summer GJ, Puntillo KA. Management of surgical and procedural pain in a critical care setting. Crit Care Nurs Clin North Am 2001; 13: 233-42.
12. Pechprapun T, Petpichetchian W, Chaowalit A. Professional nurses' perceived self-efficacy and practices in non-pharmacological pain relief techniques for cancer patients. Journal of Thai Nursing Council 2003; 18: 65-85.
13. McCaffery M, Pasero C. Pain: Clinical Manual, 2nd ed. St.Loius: Mosby, 1999.

การตรวจสอบเวชระเบียนด้านการบันทึกการประเมินและการจัดการความปวดหลังผ่าตัด: ขั้นแรกของการพัฒนาการประเมินความปวดให้เป็นสัญญาณชีพที่ 5 ในโรงพยาบาลมหาวิทยาลัยแห่งหนึ่งในประเทศไทย

ลักษมี ซาญเวชช์, วงจันทร์ เพชรพิเชฐเชียร, นลินี โกวิทวนาวงษ์, จิราภา ไชยบัญดิษฐ์, ฉมาภรณ์ วรกุล, ทัศนีย์ ขันทอง

วัตถุประสงค์ *: เพื่อศึกษาการบันทึกการประเมินความปวด และการบันทึกการรักษาความปวดระยะ 72 ชั่วโมงแรกหลังผ่าตัด*

แบบวิจัย *: ศึกษาเชิงพรรณนาย้อนหลัง*

วัสดุและวิธีการ *: สำรวจเวชระเบียนในเดือนธันวาคม พ.ศ. 2545 จำนวน 425 เวชระเบียน โดยใช้แบบตรวจสอบคุณภาพการบันทึกการประเมินความปวดและการรักษาความปวดหลังผ่าตัด โดยกำหนดให้คะแนนร้อยละ 75 ของคะแนนทั้งหมด (21 ใน 28 คะแนน) ถือเป็นการบันทึกที่ยอมรับได้ในความถูกต้อง ครบถ้วน ชัดเจนและได้ใจความ*

ผลการศึกษา *: พยาบาลบันทึกการประเมินความปวดร้อยละ 98.8 ส่วนแพทย์บันทึกเพียงร้อยละ 29.4 การบันทึกความรุนแรงของความปวดโดยมาตรวัดแบบตัวเลข จาก 0 ถึง 10 พบใน 192 เวชระเบียน (ร้อยละ 45.2) ขณะที่ใช้มาตรวัดเชิงบรรยาย 408 เวชระเบียน (ร้อยละ 96) นอกจากการใช้แบบบันทึกเฉพาะสำหรับเทคนิคการให้ยาแบบผู้ป่วยควบคุมความปวดได้ด้วยตัวเองแล้วนั้น พบว่าการบันทึกทางการพยาบาลด้านความปวดทั้งก่อนและหลังการให้ยาบรรเทาปวดในระยะ 24 ชั่วโมงแรกหลังการผ่าตัด มีการประเมินสม่ำเสมอทุก 2 ถึง 4 ชั่วโมงเพียงร้อยละ 0.5 (2 เวชระเบียน) หัวข้อการตรวจสอบที่พบต่ำกว่าเกณฑ์ ได้แก่ การประเมินซ้ำหลังจากได้รับยาบรรเทาปวด การประเมินสม่ำเสมอทุก 2 ชั่วโมงในระยะ 24 ชั่วโมงแรกหลังการผ่าตัด (วันที่ 1) การประเมินทุก 4 ชั่วโมง ใน 48-72 ชั่วโมงถัดมา (วันที่ 2 และ 3) พบว่า 4 ใน 7 หัวข้อที่มีการบันทึกและได้ค่าเฉลี่ยคะแนนระดับสูง คือ ระดับความรุนแรงของความปวดและระดับความรู้ตัวของผู้ป่วย วิธีการบริหารยาบรรเทาปวด การบันทึกที่มีความต่อเนื่อง และชื่อพยาบาลผู้บันทึก อย่างไรก็ดีเนื่องจากค่าเฉลี่ยคะแนนการตรวจสอบคุณภาพทั้งหมดที่ได้ต่ำกว่าเกณฑ์ (10.7 $\pm$ 3 จากคะแนนเต็ม 28 คะแนน) จึงไม่มีเวชระเบียนใดจากที่ได้ทำการตรวจสอบทั้งหมดมีคุณภาพที่ดี*

สรุป *: การบันทึกการประเมินความปวด และการบันทึกการรักษาความปวดระยะ 72 ชั่วโมงแรกหลังผ่าตัดนี้เป็นการสะท้อนถึงการปฏิบัติดูแลรักษาด้านความปวดที่ยังไม่ดี ซึ่งจำเป็นต้องมีการพัฒนาให้เสมือนหนึ่งความปวดเป็นสัญญาณชีพที่ 5 และเป็นส่วนหนึ่งของการประกันคุณภาพในการรักษา*