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# Postoperative pain

## - in a district hospital in rural Nepal

Student thesis in medicine

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## Contents

Abstract:

**Background.** Postoperative pain management is essential for the patient's well-being and promotes early mobilization, shortens the hospital stay and prevents postoperative complications. Data from both Western countries and the developing world have shown that a significant number of patients suffer from moderate to severe postoperative pain. However, the conditions in rural hospitals are largely unreported. Based on data from other hospitals it is reasonable to believe that a significant number of patients in Okhaldhunga Hospital do not receive sufficient pain relief. Our aim with this study was to make a survey of the patients' pain intensity and the prescription of analgesics the first postoperative day, and to discover important obstacles to satisfactory pain relief in Okhaldhunga Hospital.

**Material and method.** A cross sectional prevalence survey was conducted among 55 inpatients from 5-61 years of age in Okhaldhunga Hospital. The study is based on three sources of information: The patients' self report the first postoperative day, the patient journal and chart, and the surgeon.

**Results.** The mean pain intensity at the time of questioning the first postoperative day was 2,1 (SD 1,6) based on an 11-point numeric rating scale (NRS) and Wong Baker Faces Pain Rating Scale (WBFPRS). 16,4 % reported a pain intensity ≥ 4. For 11,1 % even the weakest pain at rest since surgery had been ≥ 4 (NRS), while for 63,2 % the strongest pain during movement had been ≥ 6 (NRS and WBFPRS). Multimodal pain treatment was prescribed regularly for 80,0 % of the patients. The prescribed regular analgesics were paracetamol (92,7 %), NSAIDs (74,5 %) and morphine (54,5 %). There was no documentation of pain intensity in the journal/chart, and only 5,3 % had been asked to grade their pain on a scale. 36,8% had been asked if they needed additional analgesics, while 60,5 % would say yes to more analgesics if it was offered to them.

**Conclusion.** Despite extensive use of multimodal analgesia, 16,4 % reported moderate to strong pain the first postoperative day defined as ≥ 4 on an 11-point NRS, and 63,9 % had experienced a pain intensity ≥ 6. Areas of potential improvement are to ask the patients if they need more analgesics, using glucocorticoids as part of multimodal analgesia and documenting pain in patient charts.

## Introduction

Surgery causes postoperative pain. If no analgesic treatment is given, postoperative pain intensity will usually be perceived as moderate to severe. If pain management is planned prior to surgery, pain is assessed systematically in the postoperative phase and available drugs and methods are used on correct indication, postoperative pain can be effectively relieved[1].

### Postoperative pain consequences

Postoperative pain causes suffering[2] to the patients, increases the risk of complications, prolongs hospital stay and increases the costs[2]. Dynamic pain is an obstacle for early mobilization[3] and increases the risk of pneumonia, deep vein thrombosis, lung edema and aspiration[4]. Catecholamine release triggered by intense pain increases the risk of wound infections[5] and ischemic cardiac complications in patients with cardiovascular disease[6]. Strong postoperative pain is also associated with the development of chronic postoperative pain even though causal relationship is unclear[7,8]. Along with these physiological outcomes there is a risk that poor treatment of postoperative pain can contribute to making patients refrain from necessary surgery.

### Postoperative pain guidelines

The postoperative pain regimen must provide sufficient pain relief at rest as well as during movement. Adequate dosages of analgesics have to be prescribed regularly, and every postoperative patient should have access to potent as needed (SOS) pain medication[9]. It is a common goal to aim for a pain score below 4 on an 11-point numeric rating scale (NRS), where 0 corresponds to no pain and 10 to worst imaginable pain, for postoperative patients[1]. To achieve adequate postoperative pain management the pain intensity should be assessed at least three times a day by using a scale, the patient should be offered SOS medication whenever pain intensity exceeds 3, and the pain intensity should be re-evaluated after administration of SOS medication[1].

**Multimodal pain treatment**

A combination of more than one class of analgesics or pain relieving techniques (multimodal analgesia) in order to achieve either additive or synergistic effect[10], has been shown to provide superior pain relief with less analgesic-related side effects[11]. Paracetamol, Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) and glucocorticoids are recommended as basic analgesics in a postoperative pain regimen[9], unless there are contraindications related to the patient[9] or the surgical procedure, and will consistently reduce the postoperative opioid consumption[12]. Epidural analgesia[6], continuous peripheral nerve block[3] and wound infiltration[9] using local anesthetics have been shown to provide effective pain relief, and there is evidence that epidural analgesia facilitates early mobilization and reduces the risk of cardiovascular complications after major abdominal and vascular surgery[6].

**Pain assessment**

The tool for pain assessment should be adapted to the target group. While NRS is a preferred scale across many cultures[13], studies from developing countries have also shown preference for VRS[14] or face pain scales[15]. Furthermore the choice of pain assessment tool must be adapted to the age of the patients. Assessment of pain intensity in children can be challenging both due to their limited understanding and communication skills[16] and because distress can easily be mistaken for pain[17]. However, the child's own self-report remains the gold standard[16].

**Prevalence studies of postoperative pain**

A study from Norway[1] demonstrated that a significant number of admitted patients in Norwegian hospitals experience unnecessary high pain intensity postoperatively. The average pain intensity the first postoperative day was 3,0 (2,1 SD) on an 11-point NRS. 11 % of the patients reported an average pain intensity of ≥ 6 the first postoperative day, while 8 % reported that even the weakest pain at rest had been ≥ 4. 52 % had been asked to grade the pain intensity on a scale, 78% had been asked if they needed additional pain medication, and 74% had been asked whether they had had any effect of their pain medication. The study reveals that there is still a way to go in the assessment and documentation of postoperative pain.

A French study[18] showed that a pain intensity of ≥ 7 on an 11-point NRS was present in 4,2 % of patients at rest and in 27% during movement the first postoperative day. Written postoperative pain evaluation was performed in 93,7% of the cases. A Dutch study[19] revealed that 30 % of the patients experienced moderate to strong pain, defined as > 40 mm on a 100 mm visual analogue scale (VAS) the first postoperative day. In a study from Germany[20] 29,5 % and 50,4 % experienced a pain intensity ≥ 4 on an 11-point NRS at rest and during movement respectively, the first postoperative day.

Less research on postoperative pain in low-resource countries is available. A study conducted in a National Hospital in Niger[14] showed that 33,8 % and 8,8 % of the postoperative patients reported a pain score > 7 on an 11-point NRS, 12 and 24 hours after surgery respectively. A score of ≥ 3 on a VRS from 0 to 4, was reported by 33,9% and 8,3% after 12 and 24 hours respectively. In Nigeria a study from a University College Hospital[21] showed that 68,7 % of the patients reported moderate to unbearable pain 24 hours postoperatively on a VRS consisting of none, mild, moderate, severe and unbearable pain. This study was conducted in 2001, and the results may not be valid today. A study conducted in a University Specialized Hospital in Ethiopia[22] reported that for the 95,2 % who experienced pain the first postoperative day the mean pain during questioning was 6,0 on an 11-point NRS. The mean worst pain experience since operation was as high as 8,7.

**Nepal**

Nepal is a South-Asian federal democratic republic landlocked between China in the north and India in the south. There are major health challenges in Nepal, particularly infectious diseases, and available resources are limited[23]. Okhaldhunga Hospital is a district hospital in the rural Okhaldhunga district in eastern Nepal serving a population of around 200 000 people. Infrastructure in the area is poor, and many patients have to walk or be carried hours or even days to reach the hospital. The hospital offers broad surgical activity and deals with the majority of emergency situations. The medical staff consists of one permanently employed Norwegian pediatrician, and 1-4 Nepali doctors working here for a limited term as a part of their residency. An Anesthesia Assistant (nurse with six months supplementary anesthesia course) performs the anesthesia. Okhaldhunga Hospital has 73 patient beds, one major and one minor operation theatre, outpatient department, tuberculosis department,

delivery room, own laboratory, x-ray and ultrasound. Admitted patients pay for their medical treatment and their relatives serve food and take care of them during the admission. Treatment for children below 12 kg and maternity care is free of charge and essential treatment for the poorest will be financed by the «Medical Assistance Fund (MAF)» which is built up by supporting organizations and individuals.

| **Table 1**<br>**Nepal** | |
|---|---|
| Religion | Hinduism (81,0 %), Buddhism (10.0 %), Islam (4,4 %), Kiratism (3,0 %), Christianity (1,4 %), Other (0,9 %)[24] |
| Inhabitants | 31 million[25] |
| Human development index | 145 / 187[26] |
| Inhabitants living below the poverty line (less than 1.25 dollar a day) | 25,2[27] |
| Economy | Agriculture, tourism, remittance sent home, support from other countries[28] |
| Literacy rate (%) (women/men) | 67/87[29] |

| **Table 2**<br>**Nepalese versus Norwegian health system** | | |
|---|---|---|
| | **Nepal** | **Norway** |
| Total health expenditure per person per year | 135 dollars[30] | 3608 dollars[31] |
| Doctors per 10 000 inhabitants | 2[32] | 43[33] |
| Life expectancy at birth | 68[34] | 82[35] |
| Under-five mortality rate per 1000 live births | 40[34] | 3[35] |
| Maternal mortality rate per 100 00 live births | 190[28] | 4[29] |

**Pain management in developing countries**

Effective pain relief can be achieved with the use of inexpensive drugs and techniques[36], but still patients suffer from strong postoperative pain in developing countries[21,22,37]. Scarce access to sufficient pain medications and equipment [21,22,36,37], inadequate praxis of multimodal pain treatment[22,37], shortness of nursing staff[14,36] and illiteracy[14] are some of the challenges. Doctors and anesthetic officers in rural areas often have insufficient pain management skills[36], an example is the fear of opioid-related side effects which contributes to underutilization of this analgesic[14,36]. It seems like pain management is given less priority in developing countries, and there is a danger that patients believe that nothing can be done to relieve their pain[36]. A retrospective study of postoperative care after abdominal surgery from 2003 at a third line hospital in Nepal[38] showed that neither the pain intensity nor the effect of the pain medication was routinely registered. The study showed a predominantly prescription of NSAIDs (99,2 %), either alone or in combination with paracetamol. Opioids were prescribed as an SOS-analgesic and given only to 4,7 %. Both because of the time that has passed and because of differences between small and big hospitals, there is reason to believe that the results are not valid for a smaller and remote hospital in Nepal.

**Aim/Research questions**

Because studies of pain management in the developing world are usually done in larger better-resourced centers, the conditions in rural hospitals are largely unreported[36]. It is reasonable to believe that a significant proportion of patients in Okhaldhunga Hospital do not receive sufficient pain relief. This study will answer the following questions:

1. What pain intensity do patients undergoing surgery report the first postoperative day?

2. What kind of regular and SOS analgesics do patients receive in the immediate postoperative phase?

3. What are the obstacles to satisfactory pain relief in Okhaldhunga Hospital?

# Method

The study was carried out as a cross sectional prevalence survey during a period of eight weeks at Okhaldhunga Hospital in Nepal. The data were collected the first postoperative day by the medical students Eirik Aasheim and Mathilde Nevland with the help of an interpreter the first five weeks. The interpreter continued the data collection the three last weeks after having been trained in the data collection process. Dr. Erik Bøhler assisted the interpreter in the data collection when necessary. Three sources of information were used: The patient, the patient journal/chart and the surgeon. Patients from all surgical specialties were included, both patients who underwent elective surgery as well as patients for emergency surgery.

**Study population**

The target group for the study was all inpatients from the age of five years who had underwent surgery the prior day. In order to be included, all patients had to sign a declaration of consent. Patients under age 16 had their consent signed by a parent/caretaker. The following exclusion criterias were used:

- Lack of consent
- Cognitive impairment
- Children below five years of age

In cases where patients met the inclusion criteria, but were not included, the reason was documented.

**Data collection**

All data were registered on a standardized form. Information about the surgery, the anesthesia and the prescribed postoperative pain treatment were collected from the patient chart. The patients' self-reports were collected with the help of the interpreter who explained the scale and asked the patients. In the cases where the operation was conducted during nighttime, the patients were asked in the afternoon the following day to ensure that there had been sufficient time (minimum of 16 hours) after the surgery.

Patients from 13 years and up were asked to grade their pain intensity by using the 11-point Numeric Pain Rating Scale (NRS) where "0 = no pain" and "10 = worst imaginable pain", and the Wong-Baker Faces Pain Rating Scale (WBFPRS), a six-item ordinal face scale. They were in addition asked questions concerning their pain management and experience, and finally one open question requesting their feedback regarding the pain management. Children from five to twelve years were given a limited selection of questions, using the WBFPRS to grade their pain (text box 1).

NRS has been validated for assessment of postoperative pain in adults across different countries and cultures[15,39,40]. One study[15] has also validated WBFPRS for postoperative adults. WBFPRS has been translated into a growing number of languages[41] and is validated for children across different countries[42-44] although the documentation is sparse. No documentation was found on the validation of WBFPRS in postoperative children, nor on the validity of the two scales in Nepal. Whereas NRS consists of every whole number from 0 to 10, WBFPRS has got the predefined numbers 0, 2, 4, 6, 8 and 10 attached to each face. For question 1a (Pain at the moment) and 1b (Strongest pain during movement) we used both NRS and WBFPRS according to age group. Children were also divided into two groups using different scales. In order to avoid splitting up the data into insignificantly small data sets, we decided to merge all data from the two scales into one result for both question 1a and 1b. The mean values were calculated by adding each reported pain intensity score, either NRS or WBFPRS value, and dividing the sum with the number of patients asked. A positive correlation between these two scales has been found both for adults[15] and children[45] but the documentation is scarce. Adults were asked to grade their pain with both NRS (question 1a) and WBFPRS (question 1g), and by comparing the data in a scatter plot and calculate the Pearson and Spearman correlation we would get an impression of the validity of the results consisting of both scales.

**Text box 1**

**Questionnaire**

1. Pain grading
    a. Pain at the moment * **
    b. Strongest pain during movement *
    c. Weakest pain during movement
    d. Strongest pain during rest
    e. Weakest pain during rest
    f. Average pain
    g. Pain at the moment (Wong-Baker Faces Pain Rating Scale)
2. Have you been asked if you need additional pain medication? Yes/no *
3. Have you been asked if you had any effect from the pain medications you have received? Yes/no *
4. Have you experienced more pain than you expected prior to the surgery? Yes/no/as expected
5. Would you say yes to more pain medication now if it was offered? Yes/no *
6. Have you been afraid of fusing too much pain medications? Yes/no
7. Did you prior to the operation receive any information about the pain relieving treatment? Yes/no*
8. Did you prior to the operation receive any information about what pain intensity to expect? Yes/no *
9. Are you content with the pain treatment? Yes/no/neither *
10. Have you been asked to grade your pain on a scale? Yes/no *
11. Which of these symptoms have been the most troublesome after the operation *
    a. Pain
    b. Nausea/vomiting
    c. Fatigue
    d. Anxiety/unrest
12. Do you have any feedback regarding your pain management at the hospital?

* Answered by children of 10-12 years of age
**Answered by children of 5-9 years of age

Sociodemographic variables and information about prior pain, regular use of pain medication prior to the operation and postoperative mobilization were seldom registered in the journal and were therefore included in the questionnaire. These questions were answered by parents/caretakers of the participating children. Adult patients were in total asked 25 questions. The operator were asked to consider whether factors like lack of money, equipment or expertise limited the quality of the postoperative pain treatment for each of the patients. Information about economical support from the MAF was collected from the Hospital's Social Service.

**Ethics**

The study was approved by the Regional Committees for Medical and Health Research Ethics, Central Norway and by the the Internal Management Committee (IMC) of Okhaldhunga Community Hospital. Participating patients gave their informed consent, either with signature or fingerprint, after having received oral information and been offered written information about the study. Adjusted patient information was offered to children below 16 years. The parent's consent and the child's assent were obtained.

**Pilot**

A pilot was initially performed to discover elements in our questionnaire that needed adjustments to fit the Nepali target group. This resulted in changes of the order of questions and also some minor adjustments in the formulation of some questions.

**Analysis**

Because the study is a purely descriptive study not attempting hypothesis testing calculation of sample size was not relevant. SPSS 22.0 for Windows was used for administration of data and for analysis. The age and pain intensity is given as mean with standard deviation. Other variables are given as absolute numbers (N) and percentage. The percentage is calculated from the cases where data for the variable were present.

# Results

## Study population

Among the 57patients meeting the inclusion criteria only two patients (3,5 %) were not included. One patient was already discharged at the time of the questioning and the second declined because of severe pain. Patient characteristics are shown in table 3.

The age of the 55 included patients ranged from five to 61 years, with a mean age of 24,8 years (SD 17,7). 23 patients (41,8 %) were below 18 years, and 54,5 % of the patients were males. 29 (53,7 %) patients underwent elective surgery, while 25 (46,3 %) were operated as acute surgery.

At the time of the questioning 11 (20,0 %) had stayed in bed since operation, 5 (9,1%) had been mobilized to bedside, 10 (18,2 %) had been walking with remedy/support and 29 (52,7 %) had been walking without support. 16 (29.1 %) received charity from the patient fund (MAF).

**Table 3**
**Patient characteristics**

| | |
|---|---|
| Sex (N = 55) | |
| Male | 30 (54,5 %) |
| Female | 25 (45,5 %) |
| Age (N = 55) | |
| Mean | 24,8 years (SD 17,7) |
| 5-17 | 23 (41,8 %) |
| 18+ | 32 (58,2 %) |
| Chronic pain on site of operation (N = 55) | 2 (3,6 %) |
| Chronic pain on other sites (N = 55) | 2 (3,6 %) |
| Alcohol abuse (N = 55) | 7 (12,7 %) |

| | |
|---|---|
| Narcotic abuse (N = 55) | 1 (1,8 %) |
| Regular pain medication prior to surgery (N = 55) | 0 (0%) |
| Elective or acute (N = 55) | |
| Elective | 29 (53,7 %) |
| Acute | 25 (46,3 %) |
| Type of surgery (N = 55) | |
| Orthopaedic | 22 (40 %) |
| Gynaecologic/Obstetric | 17 (30,9 %) |
| - whereof Caesarean section | - 16 (94,1 %) |
| Urologic | 3 (5,5 %) |
| Abdominal | 8 (14,5 %) |
| - whereof Appendicitis | - 2 (25,0 %) |
| Mamma/Endocrine | 1 (1,8 %) |
| Plastic | 3 (5,5 %) |
| Thoracic | 1 (1,8 %) |
| Technique (N = 54) | |
| Open | 28 (51,9 %) |
| Orthopaedic | 22 (40,7 %) |
| Surface | 4 (7,4 %) |
| Anesthesia (N = 55) | |
| Local | 1 (1,8 %) |
| Regional | 6 (10,9 %) |
| Spinal | 21 (38,2 %) |
| Epidural | 0 (0 %) |
| Inhalation anesthesia | 15 (27,3 %) |
| Ketamine anesthesia | 13 (23,6 %) |
| Sedation | 2 (3,6%) |
| Mobilization (N = 55) | |

| | |
|---|---|
| Patient walks without support/remedies<br>Patient walks with support/remedies<br>Patient is mobilized to bedsite<br>Patient has stayed in bed since operation | 29 (52,7 %)<br>10 (18,2 %)<br>5 (9,1 %)<br>11 (20 %) |
| Relatives/kin present during admittance (N = 55) | 55 (100 %) |
| Received charity (N = 55) | 16 (29,1 %) |

**Pain intensity**

The patients reported a mean pain intensity at the moment of 2,1 (SD 1,6), calculated from pain scores both from NRS and WBFPRS. See table 4. The score of adults (NRS) was 2,3 (SD 1,8), while the score of children between 5-12 years (WBFPRS) and children between 13-17 years (NRS), were 1,8 (SD 1,2) and 1,0 (SD 1,2) respectively. 16,4 % of the patients (NRS and WBFPRS), stated that pain at the moment was ≥ 4. 11,1 % of the patients (NRS) reported that even the weakest pain at rest had been ≥ 4, while strongest pain at rest (NRS) was ≥ 4 in 83,3% of the occasions and ≥ 6 in 63,9 %. For 86,8 % of the patients (NRS and WBFPRS), the strongest pain during movement (cough, deep breath, mobilization) had been ≥ 4 and for 63,2 % it had been ≥ 6. Patients who had been mobilized after surgery (with or without support/remedy) reported pain at the moment and strongest pain during movement to be 2,2 (SD 1,7) and 6,2 (SD 2,3) respectively. Patients immobilized in bed since operation reported pain at the moment and strongest pain during movement to be 2,1 (SD 1,3) and 6,0 (SD 2,0) respectively.

**Figure 1**
**Pain at the moment adults**

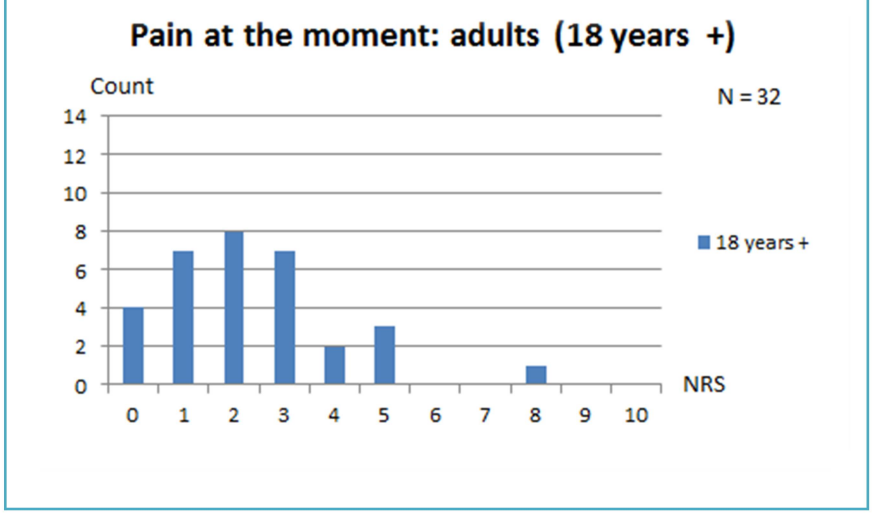



**Figure 2**
**Pain at the moment 13 – 17 years**

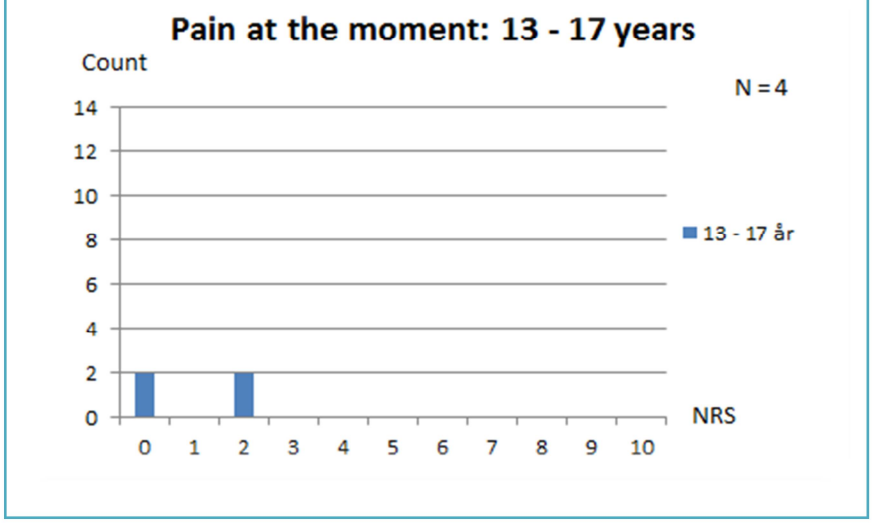



**Figure 3**
**Pain at the moment 5 – 12 years**

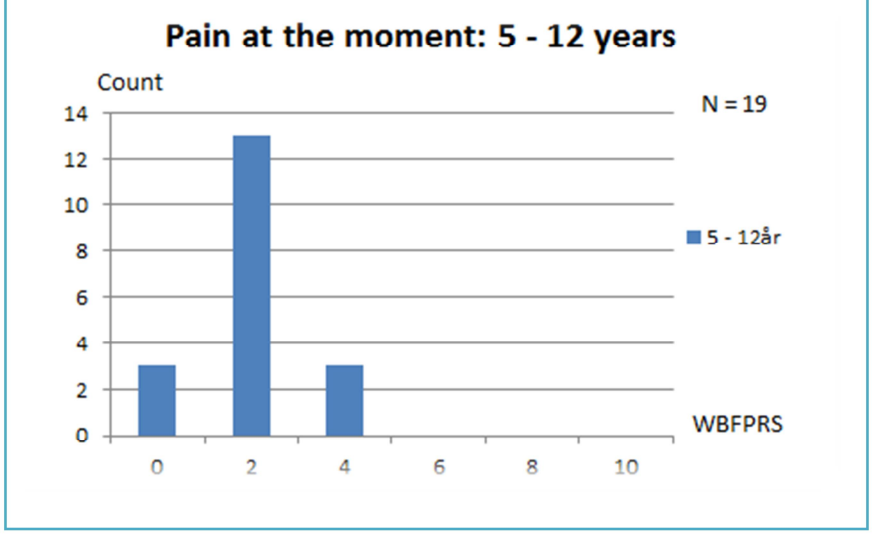


**Table 4**

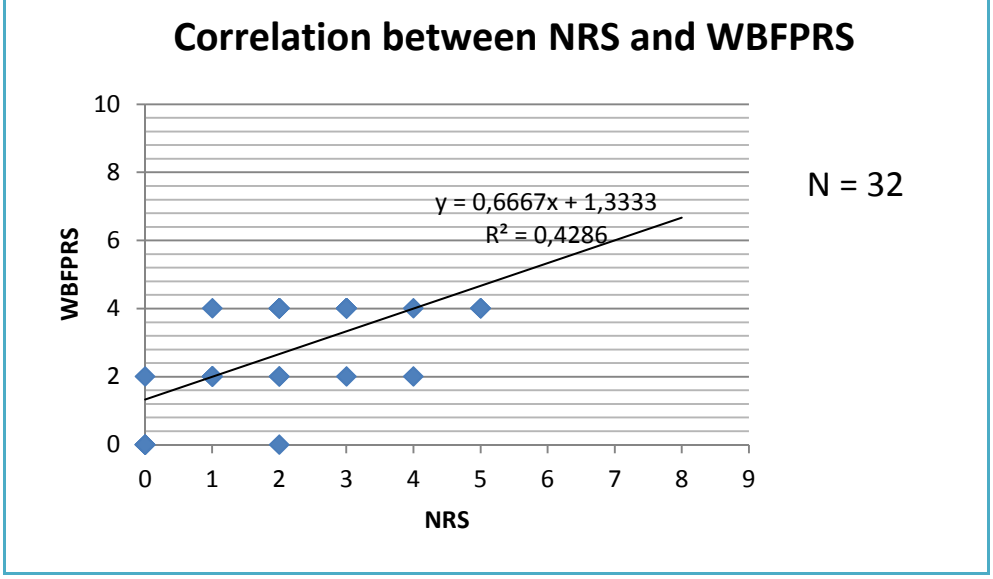
**Pain intensity**

| | Mean (SD) | ≥ 4 (%) | ≥ 6 (%) |
|---|---|---|---|
| Pain at the moment | 2,1 (1,6) | 16,4 | 1,8 |
| Adults (18 yrs +) (N = 32) | 2,3 (1,8) | | |
| Youths (13-17 yrs) (N = 4) | 1,0 (1,2) | | |
| Children (5-12 yrs) (N = 19) | 1,8 (1,2) | | |
| Strongest pain during movement | 6,1 (2,1) | 86,8 | 63,2 |
| Adults (18 yrs +) (N = 32) | 6,3 (2,1) | | |
| Youths (13-17 yrs) (N = 4) | 4,8 (1,5) | | |
| Children (10-12 yrs) (N = 2) | 5,0 (1,4) | | |
| Weakest pain during movement | 2,5 (1,6) | 25,0 | 2,8 |
| Strongest pain at rest | 5,9 (2,4) | 83,3 | 63,9 |
| Weakest pain at rest | 1,9 (1,1) | 11,1 | 0,0 |
| Average pain | 5,3 (1,9) | 86,1 | 44,4 |

**Correlation between NRS and Wong Baker Faces Pain Rating Scale**

Adults who were asked to rate their pain at the moment both with the NRS and WBFPRS showed a Pearson correlation coefficient of 0,665, and Spearman correlation coefficient of 0,671.

**Figure 4**
**Correlation between NRS and WBFPRS**




**Pain experience**

Six patients (16,7 %) had more postoperative pain than they had expected, while 12 (33,3 %) reported that the pain had been as expected. 38 (100 %) patients were satisfied with the pain treatment.

**Most troublesome symptom**

For 34 (89,5 %) of the patients pain was to the most troublesome symptom during the first postoperative day. Fatigue, nausea/vomiting and anxiety/unrest were reported as the most troublesome symptom in one (2,6 %), three (7,9 %), zero (0,0%) occasions respectively.

**Pain assessment**

Two (5,3 %) patients had been asked to grade their pain intensity on a scale in the postoperative period. 14 (36,8 %) and four (10,5 %) patients respectively, had been asked if they needed additional pain medications and if they had any effect from the pain

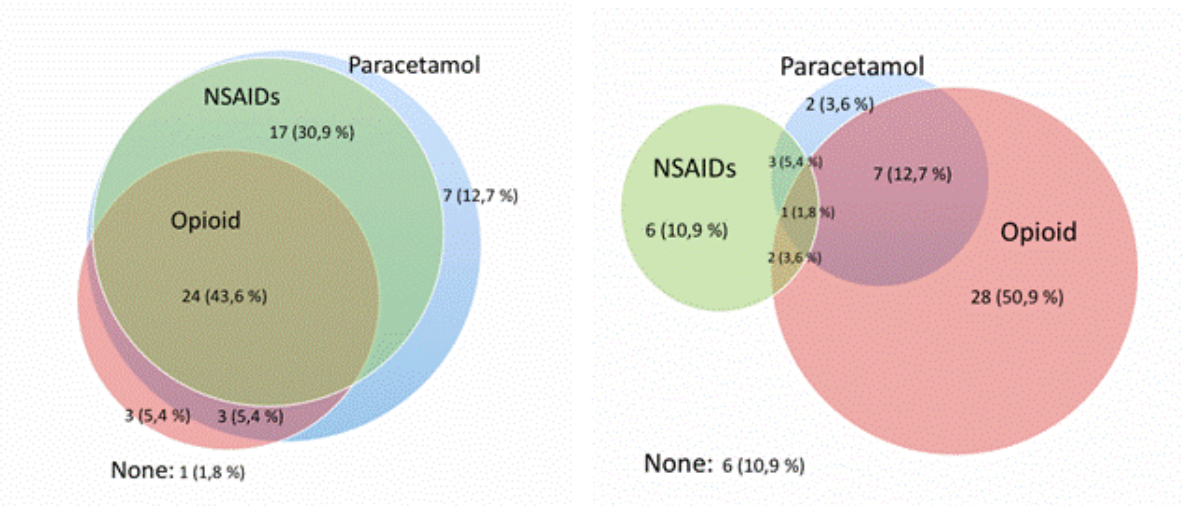
medications they received. 23 (60,5 %) patients would say yes to more analgesics if it was offered at the time of the data collection. There was no systematically documentation of pain intensity in the patient record or chart.

| **Table 5**<br>**Pain management and experience** | |
|---|---|
| Offered additional pain medication (N = 38) | 14 (36,8%) |
| Asked about effect of pain medication (N = 38) | 4 (10,5%) |
| More pain then expected (N = 36) | |
| Yes | 6 (16,7 %) |
| No | 18 (50,0 %) |
| As expected | 12 (33,3 %) |
| Would say yes to more pain medication if it was offered now (N = 38) | 23 (60,5 %) |
| Afraid of taking to much pain medication (N = 36) | 10 (27,7 %) |
| Received information about pain management prior to surgery (N = 38) | 7 (18,4%) |
| Received information about what pain to expect (N = 38) | 7 (18,4%) |
| Satisfied with pain management (N = 38) | |
| Yes | 38 (100%) |
| No | 0 (0 %) |
| Neither | 0 (0 %) |
| Asked to grade your pain on a scale (N = 38) | 2 (5,3%) |
| Most troublesome symptom after surgery (N = 38) | |
| Pain | 34 (89,5 %) |
| Nausea/vomiting | 3 (7,9 %) |
| Fatigue | 1 (2,6 %) |
| Anxiety/unrest | 0 (0 %) |

**Analgesics**

80,0 % received multimodal analgesia, as they were given more than one class of analgesics. The most frequently prescribed regular analgesic was paracetamol, which was prescribed to 51 (92,7 %) of the patients. NSAIDs and opioid were prescribed to 41 (74,5 %) and 30 (54,5 %) respectively. While regular paracetamol and NSAIDs were administered exclusively peroral, all regular opioids were administered parenteral (iv or im). The rate of regular NSAIDs prescription was 82,6 % for those below 50 years and 33,3 % for those over 50 years. Opioids were prescribed regularly to 30,4% of the patients below 18 years and to 71,9% of the patients over 18 years. The most frequent prescribed SOS analgesic was opioid injection, which was prescribed to 38 (69,1 %) patients. Intramuscular diclofenac was prescribed as SOS analgesic to 11 (20,0 %) patients, only in one occasion (1,8 %) a patient received peroral NSAIDs as SOS analgesic.

**Figure 5**
**Prescription of regular analgesics** **Prescription of SOS-analgesics**



| Table 6<br>Regular and SOS analgesics | |
|---|---|
| Paracetamol (N = 55) | |
| Regular, but not SOS | 38 (69,0 %) |
| SOS, but not regular | 1 (1,8 %) |
| Both SOS and regular | 12 (21,8 %) |
| None | 4 (7,2 %) |
| NSAIDs (N = 55) | |
| Regular, but not SOS | 30 (54,5 %) |
| SOS, but not regular | 1 (1,8 %) |
| Both SOS and regular | 11 (20,0 %) |
| None | 13 (23,6 %) |
| Opioid (N = 55) | |
| Regular, but not SOS | 6 (10,9 %) |
| SOS, but not regular | 14 (25,4 %) |
| Both SOS and regular | 24 (43,6 %) |
| None | 11 (20,0 %) |

Paracetamol was prescribed as an SOS analgesic for 12 (23,6 %) of the 51 patients already receiving paracetamol as a regular analgesic, while NSAIDs were prescribed as an SOS analgesic for 11 (26,8 %) of the 41 patients receiving regular NSAIDs. 17 (30,9 %) patients did not have access to morphine as an SOS analgesic, and 11 (20.0 %) did not have access to morphine at all. Data on the actual administered SOS analgesics were not obtained. None of the patients received epidural analgesia, local anesthetic delivered through continuous wound catheters, or continuous peripheral nerve block with refill of local anesthetic through a catheter.

**Dosage of analgesics**

The doses of prescribed analgesics varied, but some patterns dominated. Among adults the most frequently prescribed dose of paracetamol was 1 g x 4 peroral regularly and 1 g x SOS. Regular NSAIDs were most frequently prescribed as Ibuprofen in the dose 400 mg x 3 peroral, while NSAIDs for SOS analgesic was prescribed as Diclofenac in the dose 75 mg x SOS iv/im. Morphine injection was most commonly prescribed in the dose 5 mg x 3-4. The doses of analgesics for children were given according to weight.

**Information**

Seven (18,4 %) patients reported that they had prior to operation received information about the pain relieving treatment. Correspondingly, seven (18,4 %) received information about what pain intensity to expect.

**Operator registers**

The operators stated that patient economics never constituted a limiting factor for the pain relieving treatment, nor was the access of medications. In six (10,9 %) occasions, the operator reported that access to more advanced pain relieving treatment (epidural, peripheral nerve block) was a limiting factor. After five out of 16 caesarean sections (31.3%), the operator reported that the patient would benefit from epidural analgesia the first postoperative days if equipment and expertise were available. Insufficient monitoring of the patient ("would have dared to give more analgesics with better monitoring system and more experienced nurses") was reported as a limiting factor in 16 (29,1%) occasions. The operators stated that there were no limiting factors in 33 (60,0 %) of the occasions.

# Discussion

The key findings in the present study were as follows: The majority of the patients received multimodal basis analgesia with access to potent SOS analgesics. In spite of this, a significant proportion of patients reported moderate to strong pain postoperatively and more than half (60,5 %) of the patients would say yes to more pain medication if it was offered to them. Additionally, our results showed that only few patients (36,8 %) were offered additional pain medications. These findings reveal important areas where simple actions to improve pain treatment at Okhaldhunga Hospital can be done; nurses should assess the patients' pain intensity systematically, offer additional analgesics whenever pain score exceeds 3 and evaluate the effect after giving SOS medications.

**What pain intensity do patients undergoing surgery report the first postoperative day?**

Our findings of a high prevalence of moderate to strong postoperative pain confirm what has been found in studies from other countries: A significant number of patients experience moderate to severe pain postoperatively[1,14,18-22].

It is difficult to compare our results to other studies on postoperative pain due to differences in design, population, pain assessment tool and time of data collection. Pain at the moment (2,1) seems to be in line with what has been found in Norway[1] (2,0) and other Western countries[18,20]. The strongest pain at rest (5,9) was however notably higher than what was reported in Norway[1] (3,4). Compared to other developing countries our data from Nepal seem to demonstrate lower pain scores. Only 1,8 % experienced a current pain intensity ≥ 6, while in a study from Niger[14] 8,8 % experienced > 7, and in an Ethiopian study[22] the *mean* pain intensity was as high as 6,0. As many as 38,8 % in a Nigerian study[21] reported severe to unbearable pain. Although Okhaldhunga Hospital is situated in one of the least developed countries[46], the data on pain intensity seem to be closer to that of the Western countries. It is questionable whether the conditions at Okhaldhunga are representative for other small hospitals in Nepal, since the medical coordinator is from a Western country.

**Table 7**
**Studies on postoperative pain**

| | Time of questioning | Scale | Pain at the moment | Average pain after surgery | Strongest pain after surgery | Pain during movement after surgery | Strongest pain during movement after surgery | Strongest pain at rest after surgery | Weakest pain at rest after surgery |
|---|---|---|---|---|---|---|---|---|---|
| Nepal | First post-operative day | NRS | Mean: 2,1 (SD 1,6)<br>≥ 4: 16,4 % | Mean: 5,3 (SD 1,9)<br>≥ 4: 86,1 % | | | Mean: 6,1 (SD 2,1)<br>≥ 4: 86,8 % | Mean: 5,9 ( SD 2,4)<br>≥ 4: 83,3 % | Mean: 1,9 (SD 1,1)<br>≥ 4: 11,1 % |
| Norway[1] | First post-operative day | NRS | Mean: 2,0 (SD 2,1)<br>≥ 4: 21,9 % | Mean: 3,0 (SD 2,1)<br>≥ 4: 37,6 % | | | Mean: 4,7 (SD 2,9)<br>≥ 4: 61,9 % | Mean: 3,4 ( SD 2,8)<br>≥ 4: 42,4 % | Mean: 1,3 (SD 1,6)<br>≥ 4: 8,4 % |
| France*[18] | 24 hours post-operatively | NRS | Mean: 2,7 (SD 1,3) | | Mean: 6,4 (2,0)<br>≥ 7: 4,2 % | | | | |
| Netherlands[19] | First post-operative day | VAS | > 40: 30 % | | | | | | |
| Germany[20] | Day 1 after surgery | NRS | Mean: 2,6 (SD 2,4) | | Mean: 4,8 (SD 3,2) | Mean: 3,9 (SD 3,1)<br>≥ 4: 50,4 % | | | |
| Niger[14] | 24 hours post-operatively | NRS | > 7: 8,8 % | | | | | | |
| Nigeria[21] | 24 hours post-operatively | 0-4-VRS | ≥ 3: 38,8 % | | | | | | |
| Ethiopia*[22] | 24 hours post-operatively | NRS | Mean: 6,0 | Mean: 7,0 | Mean: 8,7 | | | | |

*The numbers represent only patients who actually experienced postoperative pain.

The mean score for average pain after operation was found to be as high as 5,3 (SD 1,9), and 44,4 % reported an average pain ≥ 6. If we can rely on this score, it reveals unacceptably high pain intensity. However, many patients seemed to have difficulties understanding the concept of average, and the score was often inconsistent in relation to their other scores.

Basically, one would expect lower pain intensity during movement in the mobilized group compared to the immobilized group. Our data show that mobilized patients scored nearly the same maximum pain intensity (6,1) during movement as immobilized (6,0), therefor it may look like the degree of pain did not have a great impact on mobilization. The explanation could also be that the mobilization in itself triggered the pain. Nevertheless, the high pain scores emphasize the need for better dynamic pain relief.

**What kind of regular and SOS analgesics do patients receive in the immediate postoperative phase?**

80 % of the patients received at least two different classes of analgesics, demonstrating an extensive praxis of multimodal pain management. The combination of two non-opioid analgesics with morphine, was observed in 24 (43,6 %) patients. When adding SOS analgesics the number is even higher. This rate is superior to what has been observed in other low resource settings[14,22,38].

No particular patterns of regular analgesics were related to any type of surgery, except from opioids, which were less frequently prescribed after orthopaedic procedures. This may be due to the younger age in this group.

Paracetamol is shown to have good effect on moderate to strong pain and has few side effects[9]. Our data show good utilization of paracetamol in the postoperative period, 92,7 % regularly, a frequency of prescription that corresponds to that of Norwegian[1] (91,1 %) and French[18] (90,3 %) hospitals. Lower rates or no prescription at all have been observed from other low resource settings[14,21,22,37,38]. Prescription of paracetamol preoperatively and increase of dose to 6 g the first postoperative day may improve the utilization of paracetamol further[9].

NSAIDs were frequently prescribed regularly (74,5 %). Seen in comparison with both Western countries[1,18] and developing countries[14,22,37] this represents high numbers.

Although this is an effective analgesic against moderate to strong postoperative pain, it should be prescribed with precaution because of its potential severe side effects[9]. However, two thirds (66,6 %) of the patients aged 50 years and up did not receive regular NSAIDs, which may reflect too restrictive prescription. Regularly NSAIDs were always prescribed together with paracetamol, which is an advantage as these analgesics are more efficient given in combination than alone[9].

Whereas some studies from developing countries have demonstrated underutilization of strong opioids[14,36,38], this was not the case in Okhaldhunga Hospital. Still 30,9 % did not have access to morphine as an SOS analgesic, and 20.0 % did not have access to morphine at all. It is a goal for postoperative pain management for every patient to have access to potent SOS analgesia[9]. Opioids are encumbered with many well known side effects[10], and should not be prescribed alone. The unbalanced rescription of opioids exclusively has been demonstrated in some low-resource settings[21,22,37], this only occurred in three patients (5,5 %) in our study.

Glucocorticoids are not a part of the postoperative pain management in Okhaldhunga Hospital. In Norwegian hospitals[1] 13,1 % of the patients received steroids perioperatively. A single dose of glucocorticoids is shown to have an analgesic and analgesic-sparing effect concurrently with an antiemetic effect[47], and would thus be a useful supplement to the present selection of medication.

**What are the obstacles to satisfactory pain relief in Okhaldhunga Hospital?**

(1) Infrequent offering of SOS analgesics by nurses on ward seems to be the most important barrier to better pain relief in Okhaldhunga Hospital. Only one out of three patients (36,8 %) had been offered additional pain medication, which is inferior compared to Norwegian hospitals (ref) (78 %). Other studies have shown that patients wait until their pain gets intense before requesting rescue analgesia on their own initiative[1,39], this underlines the importance of evaluating patient's pain intensity and offer additional analgesics. Motivating and educating of hospital staff are suggested to be some of the most important basic interventions to improve acute pain management in developing countries[36], and would probably be beneficial in Okhaldhunga.

(2) Lack of grading and documentation of patient`s pain are other obstacles to satisfactory pain relief. Only 5,3% of the patients were asked to grade their pain on a scale and there was no documentation of pain intensity in the patient record or medication chart. Quantifying and documentation of pain is important for making patient´s pain visible for the medical staff[48] and for evaluating the effect of the pain relieving treatment. When this is not complied, it can result in disregard of postoperative pain and inadequate pain treatment[14].

(3) Explaining patients about the causes of pain and likely duration of the pain might improve the patient's ability to cope with their pain[36]. Few patients (18,4 %) in Okhaldhunga Hospital received preoperative information about the following postoperative pain treatment and what pain intensity to expect. In comparison, 67 % of the patients in Norwegian hospitals received preoperative information regarding pain treatment and postoperative pain[1]. Increased focus on preoperative information is an easy and inexpensive way to improve the postoperative pain treatment.

(4) Lack of anesthesiologist and equipment limit the utilization of some of the more advanced pain relieving techniques like epidural analgesia and peripheral nerve block. The operator stated that access to more advanced pain relieving treatment was a limitation only in 10.5 % of the occasions. Epidural analgesia has been shown to provide effective pain relief, but it is questionable whether there is a need for this technique in a hospital with little major surgery. Simple and effective techniques like infiltration of local anesthetic into the surgical wound and single shot techniques including spinal anesthesia, plexus blockade and caudal anesthesia in children can be accomplished with minimal resources, but requires training and a sufficient number of patients [36]. The effectiveness of patient controlled analgesia (PCA) has also been proven in low-resource countries, but use of this technique requires careful monitoring from the nursing staff and expensive equipment[36]. Shortness of nursing staff is a well known obstacle to satisfactory pain treatment in developing countries[36], and in our study the surgeon reported that he would have dared to give more analgesics with a better monitoring system or more experienced nurses in 29,1% of the occasions.

(5) The prescriptions of analgesics are in general adequate, but introduction of steroids to the multimodal pain treatment and ensuring that every postoperative patient has access to potent analgesics could be beneficial.

(6) The patients may be content with suboptimal pain treatment in order to keep the expenses to the minimum, or may discharge prematurely because of domestic duties. Still the operator never considers the patient's economy as a limiting factor for the pain treatment.

(7) It is a danger that health care providers[36] and patients are content with sufficient pain relief rather than optimal pain relief. Moderate pain can, however, still limit mobilization.

**Satisfaction**

Despite high pain scores and the fact that 89,5 % rated pain as the most troublesome symptom, 100% of the patients were satisfied with the pain management. This may seem inconsistent, but similar paradoxes have been reported earlier[1,18,37]. It is likely that other factors than the pain intensity alone has influenced their opinion about the pain management. Half of the patients reported that the pain was not stronger than expected, which indicates that many were prepared for pain. A successful operation, or even relief of having survived the surgery, could presumably affect the satisfaction rate. Patients may have felt less pain during the questioning compared to earlier in the postoperative phase, meaning that there had been an improvement. Economic considerations may also play a part. Nearly one third (29,1 %) received economical support from the MAF and may have felt a gratitude that overshadowed their pain experiences. We must also take into consideration that respect towards the health care providers and the Norwegian students, or fear of negative consequences for the further treatment[37], may have resulted in withdrawal of critical comments[49].

**Strenghts and limitations**

With a participation rate of 96,5 % selection bias is not a problem. Another strength of our study is that the pain prevalence rely on the patients' self reports. The pain scores should nevertheless be interpreted in their context as more than just the pain intensity in itself is

communicated. Beside its somatosensory qualities, pain has an affective dimension[50], and cultural factors may also influence the score. The choice of scales may not necessarily be optimal for our population. Our experience was that some had difficulties comprehending the NRS, and it is questionable whether the low educational level in our sample can limit the efficiency of the NRS. Whereas NRS is found to be a sensitive scale and applicable in most settings[13], VRS is regarded easier to comprehend, especially among older and uneducated[13,51]. Some studies have also found that adult patients prefer face scales[15,39]. Among children WBFPRS is a preferred scale, but its disadvantage is that some of the faces, particularly the smiling and crying face, are not necessarily expressions of pain[52]. Perhaps a VRS or a face scale might be more suitable for adults in the clinical setting of Okhaldhunga Hospital. Further research should investigate the preference and validity of pain scales in Okhaldhunga.

Although we found a positive Spearman and Pearson correlation between NRS and WBFPRS, we cannot conclude that these two scales can be merged due to our small sample and the sparse utilization of the full scale. That one single value on WBFPRS was represented by as many as five NRS-values undermines the reliability of the data consisting of both scales. WBFPRS-score was also collected after the NRS-score, which could lead to a bias. However, if there had been a high correlation between the scores for adults, it would not necessarily imply a good correlation between child's WBFPRS-score adult's NRS-score.

A factor that may have influenced our results is the lack of privacy as all patients were interviewed at bedside in shared accommodations where bystanders observed the questioning. The use of an interpreter and verbal questioning makes a potential source of errors. This was most prominent in the pilot phase of the trial before a complete Nepalese translation of the questionnaire was complete, and our interpreter asked the questions based on an English translation. Other limitations in our study are a small sample size and conduction only at a single center. There is reason to believe that the conditions at Okhaldhunga Hospital are superior compared to other rural hospitals in Nepal, because of the Western influence and support to the hospital. Many of the included patients were operated for injuries, and the injury may in itself contribute to postoperative pain. Another

limitation is the lack of validation on the questions about pain intensity in the Nepali population.

## Conclusion

In conclusion, this study reveals potential to improve the pain relieving treatment at Okhaldhunga Hospital. Multimodal analgesia was widely prescribed, but still many patients reported moderate to strong pain postoperatively and few patients were offered additional analgesics. Based on our findings, we have the following recommendations:

1. Systematic pain evaluation: Pain intensity and need for additional analgesics should be assessed and evaluated at least three times a day the first postoperative days. Analgesics should be offered whenever pain intensity exceeds three on an 11-point NRS, and the effect should be evaluated after giving SOS medication.
2. Introducing glucocorticoids to the multimodal pain treatment.
3. Systematic documentation of pain intensity in patient record.
4. Preoperative information about the planned postoperative pain treatment and what pain intensity to expect.
5. Every patient should have access to potent SOS analgesics.

Improvement of these areas is important for the patients' wellbeing, prognosis and length of hospital stay. Achievement of these goals requires effort from both doctors and nurses at Okhaldhunga Hospital.

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# Appendices

## Appendix I

Request for participation in a research project
Assessment of postoperative pain and postoperative pain treatment in Okhaldhunga Hospital

Background and purpose
This is a request for you to participate in a research study that intends to evaluate pain management after surgery in Okhaldhunga Hospital. After surgery most patients will feel pain if they don't receive satisfactory pain management. This pain can in most cases be relieved by using analgesics. In this study we will assess how much pain patients experience after surgery, evaluate what kind of pain treatment the patients receive, and uncover obstacles to good pain management. You are selected for this request because you either are scheduled for surgery or have recently undergone surgery at Okhaldhunga Hospital. The study is carried out by two medical students from NTNU university in Norway in partnership with senior consultant Erik Bøhler at Okhaldhunga Hospital and professor Olav Fredheim from NTNU university.

What does the study entail?
You will be asked 18 questions about your pain, pain treatment, and your condition after surgery. It will take approximately twenty minutes to answer the questions. We will collect information from your medical record about the operation, prescribed analgesics and consumption of analgesics.

Potential advantages and disadvantages
The study will not interfere with the quality of your treatment and does not involve any risk. If your pain treatment is not good enough, we will inform your doctor so you can get better pain relief.

What will happen to the information about you
The samples and data that are registered about you will only be used in accordance with the purpose of the study as described above. All the data and samples will be processed without name, ID number or other directly recognizable type of information. A code number links you to your data and samples. Only authorized project personnel will have access to the list of names and be able to identify you. The identifier list will be deleted five years after the data is collected. It will not be possible to identify you in the results of the study when these are published.

Participation in the study is voluntary.
You can withdraw your consent to participate in the study at any time and without stating any particular reason. This will not have any consequences for your further treatment. If you wish to participate, sign the declaration of consent on the final page. If you agree to participate at this time, you may later on withdraw your consent without your treatment being affected in any way. If you later on wish to withdraw your consent or have questions

concerning the study, you may contact stud. med. Mathilde Nevland (mathilde.nevland@gmail.com) or Eirik Aasheim (aasheim.eirik@gmail.com). Mathilde Nevland and Eirik Aasheim are responsible for the collection of data.

Privacy protection
The data that we will collect contains your age/gender, whether you have chronic pain, your use of alcohol and drugs, former use of pain relief, what sort of operation you have had, what kind of pain relief you received both during the operation and now, and whether you have been mobilized. The data will also contain your answers on 16 questions regarding your experience of both the pain and the pain management after the operation.

The person responsible for the collected data will have the access to the data from the all the patients in this study, which may be used to improve the treatment of pain in the future. This data will be anonymous. The data will be transferred to Norway for storage and analysis.

In case of publishing of the results of the study, authorities or supervisor board ask for permission to access the collected data, and to the actual part of your journal. The purpose of this is to control that the information from the study corresponds to the information from your journal. All who have access to the journal have confidentiality declaration

Your access to information and right to delete information about you:
If you agree to participate in the study, you have the right to gain insight to the information regarding you. You may also correct any errors in the collected data. If you wish to withdraw from the study, you may require the deletion of all the data concerning you, unless the data is already a part of analyses or has been used in scientific publications.

Finances:
This study is financed by NTNU, the Norwegian Technical-Scientific University and the Norwegian State Educational Fund.

Information of the result of the study
You have the right to know the result of the study after it has been completed. If you would like to have this information, you may contact Eirik Aasheim at aasheim.eirik@gmail.com or Mathilde Nevland mathilde.nevland@gmail.com. We expect to have the results in 2016.

**Approval**
This study has been approved by REK (Nowegian Regional Ethical Committee) and Health care Research Ethics and by the Management Committee at Okhaldunga Hospital.

Name/Fingerprint Date

**Appendix II**

Request for participation in a research project
Assessment of postoperative pain and postoperative pain treatment in Okhaldhunga Hospital

Background and purpose
This is a request for your child to participate in a research study that intends to evaluate pain management after surgery in Okhaldhunga Hospital. After surgery most patients will feel pain if they don't receive satisfactory pain management. This pain can in most cases be relieved by using analgesics. In this study we will assess how much pain patients experience after surgery, evaluate what kind of pain treatment the patients receive, and uncover obstacles to good pain management. Your child is selected for this request because he/she either is scheduled for surgery or have recently undergone surgery at Okhaldhunga Hospital. The study is carried out by two medical students from NTNU university in Norway in partnership with senior consultant Erik Bøhler at Okhaldhunga Hospital and professor Olav Fredheim from NTNU university.

What does the study entail?
Your child will be asked some questions about his/her pain, pain treatment, and his/her condition after surgery.. If your child is 5-9 years, he/she will be asked one question. If your child is 10-12 years, he/she will be asked ten questions. If your child is 13-15 years, he/she will be asked 18 questions. For the children between 5-9 years it will take approximately ten minutes. For the children between 10-12 years and 13-15 years it will take twenty minutes to answer the questions. We will collect information from his/her medical record about the operation, prescribed analgesics and consumption of analgesics.

Potential advantages and disadvantages
The study will not interfere with the quality of your child's treatment and does not involve any risk. If your child's pain treatment is not good enough, we will inform his/her doctor so your child can get better pain relief.

What will happen to the information about your child
The samples and data that are registered about your child will only be used in accordance with the purpose of the study as described above. All the data and samples will be processed without name, ID number or other directly recognizable type of information. A code number links your child to his/her data and samples. Only authorized project personnel will have access to the list of names and will be able to identify your child. The identifier list will be deleted five years after the data is collected. It will not be possible to identify your child in the results of the study when these are published.

Participation in the study is voluntary.
You can withdraw the consent to participate in the study at any time and without stating any particular reason. This will not have any consequences for your child's further treatment. If you wish your child to participate, sign the declaration of consent on the final page. If you agree to let your child participate at this time, you may later on withdraw your consent without your child's treatment being affected in any way. If you later on wish to withdraw your

consent or have questions concerning the study, you may contact stud. med. Mathilde Nevland (mathilde.nevland@gmail.com) or Eirik Aasheim (aasheim.eirik@gmail.com). Mathilde Nevland and Eirik Aasheim are responsible for the collection of data.

Privacy protection
The data that we will collect contains your child's age/gender, whether he/she has chronic pain, his/her use of alcohol and drugs, former use of pain relief, what sort of operation your child has had, what kind of pain relief your child received both during the operation and now, and whether your child has been mobilized. The data will also contain your child's answers on some questions regarding his/her experience of both the pain and the pain management after the operation.

The person responsible for the collected data will have access to the data from all the patients in this study, which may be used to improve the treatment of pain in the future. This data will be anonymous. The data will be transferred to Norway for storage and analysis.

In case of publishing of the results of the study, authorities or supervisor board ask for permission to access the collected data, and to the actual part of your journal. The purpose of this is to control that the information from the study corresponds to the information from your child's journal. All who have access to the journal have confidentiality declaration

Your access to information and right to delete information about your child:
If you agree to let your child participate in the study, you have the right to gain insight to the information regarding your child. You may also correct any errors in the collected data. If you wish your child to withdraw from the study, you may require the deletion of all the data concerning your child, unless the data is already a part of analyses or has been used in scientific publications.

Finances:
This study is financed by NTNU, the Norwegian Technical-Scientific University and the Norwegian State Educational Fund.

Information of the result of the study
You have the right to know the result of the study after it has been completed. If you would like to have this information, you may contact Eirik Aasheim at aasheim.eirik@gmail.com or Mathilde Nevland mathilde.nevland@gmail.com. We expect to have the results in 2016.

**Approval**
This study has been approved by REK (Nowegian Regional Ethical Committee) and Health care Research Ethics and by the Management Committee at Okhaldunga Hospital.

Name/Fingerprint Date

**Appendix III**

Request for participation in a research project

# Pain and painmanagement after surgery in Okhaldhunga Hospital

**Why are you asked to participate?**
This is a request for you to participate in a research study. You are selected for this request because you either are sceduled for surgery or have recently undergone surgery at Okhaldhunga Hospital.

After surgery most patients will feel pain if they don't receive good enough pain management. In this study we want to know how much pain the patients experience after surgery, and whether the treatment they receive relieves the pain. With the help from your answers we may improve the pain management at Okhaldhungha Hospital.

The study will be carried out by two medical students from Norway in partnership with senior consultant Erik Bøhler at Okhaldhunga Hospital and professor Olav Fredheim from NTNU university

**What will happen if you participate?**
You will in the presence of your parent/guardian be asked some questions about your pain experience after the surgery and how this is registered and treated at the hospital. The questions will be asked by Mathilde Nevland and Eirik Aasheim together with an interpreter. We will collect information from your medical record about the operation and use of analgesics.

Participating in this study will not cause any harm to you, and if we discover that your pain treatment is not good enough, we will inform your doctor so you can get better pain relief.

It will take approximately ten to twenty minutes to answer the questions. Other patients will be asked the same questions as you, both adults and children.

If you or your parent/guardian have any questions about the participation in the study, we will answer your questions before you decide whether to participate.

**What will happen if you don't participate?**
It is absolutely voluntarily to participate, and you are free to say no. Declining to participate will not have any negative consequences for you.

**Appendix IV**

Request for participation in a research project

# Pain and painmanagement after surgery in Okhaldhunga Hospital

**Background and purpose**
This is a request for you to participate in a research study. After surgery most patients will feel pain if they don't receive good enough pain management. This pain can in most cases be relieved by using pain medication. In this study we want to know how much pain patients experience after surgery, and whether the treatment they receive relieves the pain. You are selected for this request because you either are sceduled for surgery or have recently undergone surgery at Okhaldhunga Hospital. With the help from your answers we may improve the pain management at Okhaldhungha Hospital.

The study is carried out by two medical students from Norway in partnership with senior consultant Erik Bøhler at Okhaldhunga Hospital and professor Olav Fredheim from NTNU university.

**What does the study entail?**
You will, in the presence of your parent/guardian, be asked some questions about your pain, pain treatment and your condition after surgery. It will take approximately twenty minutes to answer the questions. The questions will be asked by Mathilde Nevland and Eirik Aasheim together with an interpreter. We will collect information from your medical record about the operation and use of analgesics.

**Potential advantages and disadvantages**
Participating in this study will not cause any harm to you, and if we discover that your pain treatment is not good enough, we will inform your doctor so you can get better pain relief.

**What will happen to the information about you**
The information that is registered about you will only be used as a part of this study, and it will be anonymously and kept safe. Only personnel working with this study will have access to the data.

**Participation in the study is voluntary**

It is absolutely voluntarily to participate, and you are free to say no. Declining to participate will not have any negative consequences for you. You can withdraw your consent to participate in the study at any time and without stating any particular reason.

If you or your parent/guardian have any questions about the participation in the study, we will answer your questions before you decide whether to participate.

## Appendix V

### एक अनुसन्धनात्मक परियोजनामा सहभागिताको लागि अनुरोध

ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चातको दु:खाई (पीडा) र शल्यक्रिया पश्चातको दु:खाई (पीडा) को उपचारको जाँचबुझ (लेखाजोखा)

**पृष्ठभूमि र उद्देश्य**

ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चात दु:खाई (पीडा) व्यावस्थापनको मूल्याङ्कन गर्न लक्षित एक अनुसन्धनात्मक अध्ययनमा सहभागी हुनको लागि तपाईंको बच्चालाई यो एक अनुरोध हो । अधिकांश बिरामिहरुले शल्यक्रिया पश्चात यदि सन्तोडजनक दु:खाई (पीडा) व्यावस्थापन पाएनन् भने तिनीहरुले दु:खाई (पीडा) को महसुस गर्नेछन् । यो दु:खाई (पीडा) बाट धेरै जसो मामलाहरुमा दु:खाई (पीडा)कम गर्ने औषधीहरु प्रयोग गरेर छुट्काारा पाउन सकिन्छ । यो अध्ययनमा हामीहरुले बिरामिहरुले शल्यक्रिया पश्चात कति दु:खाई (पीडा) को अनुभव गर्छन् भन्ने कुरा, दु:खाई (पीडा) को लागि बिरामिहरुले कस्तो खालको उपचार प्राप्त गर्छन् र दु:खाई (पीडा) को राम्रो व्यावस्थापन को लागि के बिग्न भाधाहरु अझै समेटिएका छैनन् भनी मूल्याङ्कनको जाँचबुझ गर्नेछौं । तपाईंको बच्चालाई यो अनुरोधको लागि छनिएको छ किनभने या त उन / उनीलाई शल्यक्रियाको लागि सूचिमा राखिएको छ या त ओखलढुङ्गा अस्पतालमा उन / उनीको भर्खर मात्र शल्यक्रिया भएको छ । यो अध्ययन नोर्वेको एन.टी.एन.यु. विश्वविद्यालयबाट आउनु भएका दुईजना मेडिकल विद्यार्थीहरुद्वारा ओखलढुङ्गा अस्पतालका वरिष्ठ विशेषज्ञ डा. इरिक बोह्लर र एन.टी.एन.यु. विश्वविद्यालयका प्रोफेसर डा. ओलाभ फ्रेडहेईम्संगको साझेदारीमा गरिएको हो ।

**यो अध्ययनले के माग गर्छ (खोज्छ)?**

तपाईंको बच्चाललाई शल्यकृयापश्चात उन / उनीको दु:खाई (पीडा), दु:खाई (पीडा) को उपचार, र अवस्थाको बारेमा प्रश्नहरु सोधिनेछन् । ती प्रशनहरुको उत्तर दिनको लागि करीब पाँच दश मिनेट लाग्नेछ । शल्यकृया, सिफारिश गरिएका दु:खाई कम गर्ने औषधीहरु र दु:खाई कम गर्ने औषधी खाने तरीकाहरु बारेको जानकारी चाहिं हामीहरुले उन / उनीको मेडिकल अभिलेखबाट सङ्कलन गर्नेछौं ।

**सम्भावित फाईदा र बेफाईदाहरु**

यो अध्ययनले तपाईंको बच्चाको उपचारको गुणस्तरमा वाधा पुर्याउनेछैन र यसमा कुनै जोखिम सम्लग्न छैन । यदि तपाईंको बच्चाको दु:खाई (पीडा) को उपचार भने जस्तो राम् छैन भने हामीले तपाईंको उपचारमा सम्लग्न डाक्टरलाई खबर गरिदिन्छौं ताकी तपाईंको बच्चाले दु:खाई (पीडा) बाट अझ राम्रोसंग छुट्काारा पाउन सक्नेछन् / छिन् ।

**तपाईंको बच्चा बारेको सूचना उपर के हुन्छ ?**

तपाईंको बच्चा बारे दर्ता भएका नमूनाहरु तथा तथ्याङ्कहरु माथी उल्लेख गरिए बमोजिम अध्ययनको उद्देश्यसंग मिल्ने कुरामा मात्र प्रयोग गरिनेछ । सबै नमूनाहरु तथा तथ्याङ्कहरु नाम, परिचय नम्बर वा सोझै चिनिने खालको सूचना बीना नै प्रशोधन गरिनेछन् । तपाईंको बच्चाको नमूनाहरु तथा तथ्याङ्कहरुसंग तपाईंको बच्चालाई एउटा साङ्केतिक नम्बरले जोड्नेछ । नामें सूचीमा केबल परियोजनाका आधिकारिक व्याक्तिको मात्र पहुँच हुनेछ र तपाईंको बच्चालाई पहिचान गर्न सकिनेछ । तथ्याङ्क सङ्कलन गरिएको ५ वर्ष पछि पहिचान दिने सूची रद्द गरिनेछ । नतीजाहरु प्रकाशन हुँदा अध्ययनको नतीजामा तपाईंको बच्चालाई पहिचान गर्न सम्भव हुनेछैन ।

**अध्ययनमा हुने सहभागिता स्वेच्छिक हो**

कुनै पनि समय र कुनै खास कारण नबताईकनै यो अध्ययनमा सहभागीहुने मनसायबाट तपाई पछिहट्न सक्नुहुनेछ । तपाईंको बच्चाको थप उपचारको लागि यसले कुनै पनि प्रभाव पार्नेछैन । यदि तपाईंको बच्चा सहभागी हुन चाहनुहुन्छ भने अन्तिम पृष्ठमा स्वीकृतीको घोषणा स्वरुप सहीछाप गर्नुहोस् । यदि यो बखत तपाईंको बच्चालाई सहभागी गराउन मञ्जूर हुनुहुन्छ भने पनि पछी कुनै पनि हालतमा तपाईंको बच्चाको उपचारमा असर नपारिकनै तपाईं तपाईंको मञ्जूरिबाट पछि हट्न सक्नुहुन्छ । यदि तपाई पछाडि तपाई तपाईंको मञ्जूरी फिर्ता लिन चाहनुहुन्छ भने वा अध्ययनको बारेमा तपाईंको कुनै प्रशनहरु छन् भने तपाईंले मेडिकल विद्यार्थिहरु माथिल्डे नेभल्याणडलाई mathilde.nevland@gmail.com मा र आईरिक आशेईमलाई aasheim.eirik@gmail.com मा सम्पर्क गर्न सक्नुहुनेछ । तथ्याङ्कहरु सङ्कलनको लागि माथिल्डे नेभल्याणड र आईरिक आशेईम जिम्मेवार हुनेछन् ।

**गोपनीयताको रक्षा**

हामीले सङ्कलन गर्ने तथ्याङ्कमा तपाईंको बच्चाको नाम / लिङ्ग, उन् / उनीलाई असह्य दु:खाई (पीडा) भए नभएको कुरा, उन् / उनीको रक्सी र औषधीको प्रयोग, यसभन्दा अघीको दु:खाई (पीडा) बाट छुट्कारा को लागि प्रयोग भइका कुरा, तपाईंको बच्चाको कस्तो खालको शल्यक्रिया भएको थियो भन्ने कुरा, अहिले र शल्यक्रिया भएको दुबै बखत कस्तो खालको दु:खाई (पीडा) बाट छुट्कारा पाउने कुरा तपाईंको बच्चाले प्राप्त गरे / गरिन् सो कुरा र तपाईंको बच्चालाई चलाईएको नचलाईएको कुरा हुनेछन् । त्यो तथ्याङ्कमा शल्यक्रिया पश्चात दु:खाई (पीडा) र दु:खाई (पीडा) व्यावस्थापन दुवैको तपाईंको बच्चाको अनुभव सम्बन्धी केहि प्रश्नहरुमाथीको तपाईंको बच्चाको उत्तरहरु पनि हुनेछन् ।

सङ्कलित तथ्याङ्कहरुको लागि जिम्मेवार व्याक्ति यो अध्ययनका सबै बिरामिहरुको तथ्याङ्कमा पहुँच हुनेछ । यो तथ्याङ्क गोप्य हुनेछ । यो तथ्याङ्क भण्डारण र विश्लेषणको लागि नोर्वे पठाईनेछ ।

यो अध्ययनको नतीजा प्रकाशन गर्नु पर्दा अधिकारीहरु वा सुपरिवेक्षण बोर्डले सङ्कलित तथ्याङ्कमा र तपाईंको बच्चाको जर्नलको खुद अंशमा पहुँच गर्न अनुमतिको लागि अनुरोध गर्नेछन् । यसको उद्देश्य चाहिं अध्ययनको जानकारीले तपाईंको बच्चाको जर्नलबाटको जानकारीलाई ईङ्कित गर्न काममा नियन्त्रणहोस् भन्ने हो । जर्नलमा पहुँचहुनेहरु सबैले गोपनीयताको घोषणा गर्नेछन् ।

**जानकारीमा तपाईंको पहुँच र तपाईंको बच्चा बारेको जानकारी रद्द गर्ने तपाईंको अधिकार**

यदि तपाईले तपाईंको बच्चालाई यो अध्ययनमा सहभाँगी गराउन राजी हुनुहुन्छ भने तपाईको बच्चा सम्बन्धी जानकारीमा सुझबुझ प्राप्त गर्ने अधिकार तपाईंसंग छ । सङ्कलित तथ्याङ्कहरुमा भएको कुनै पनि त्रुटिहरु तपाईं सच्याउन सक्नुहुन्छ । यदि तपाईं तपाईंको बच्चालाई यो अध्ययनबाट पछिहटाउ चाहनुहुन्छ भने विश्लेषणको एक अंश नहुँदासम्म वा वैज्ञानिक प्रकाशनमा प्रयोग नहुँदासम्म तपाईंको बच्चा बारेको सबै तथ्याङ्कहरु तपाई हटाउनसक्नुहुन्छ ।

**लगानी वा खर्च**

यो अध्ययन गर्न एन.टी.एन.यु., नोर्वेजियन प्राविधिक - वैज्ञानिक विश्वविद्यालय र नोर्वेजियन स्टेट शैक्षिक कोषबाट लगानी भएकोछ ।

**अध्ययनको नतीजाको जानकारी**

सम्पन्न भईसकेपछि यो अध्ययनको नतीजा थाह पाउने अधिकार तपाईसंग छ । यदि तपाईं यो जानकारी प्राप्त गर्न चाहनुहुन्छ भने तपाईंले आईरिक आशेईम लाई aasheim.eirik@gmail.com मा र माथिल्डे नेभल्याणडलाई mathilde.nevland@gmail.com मा सम्पर्क गर्न सक्नुहुनेछ। हामीले त्यो नतीजा २०१६ मा प्राप्त गर्ने आशा राखेकाछौं ।

**श्वीकृती**

यो अध्ययन आर. ई. के. (नोर्वेजियन क्षेत्रिय ईथिकल समिति) र स्वास्थ्य हेरचाह अनुसण्धान ईथिक्स ओखलढुङ्गा अस्पताल आन्तरिक व्यावस्थापन समितिद्वारा स्वीकृत गरिएको छ ।

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नाम औंठा छाप मिति

## Appendix VI

### एक अनुसन्धनात्मक परियोजनामा सहभागिताको लागि अनुरोध

ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चातको दु:खाई (पीडा) र शल्यक्रिया पश्चातको दु:खाई (पीडा) को उपचारको जाँचबुझ (लेखाजोखा)

**पृष्ठभूमि र उद्देश्य**

ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चात दु:खाई (पीडा) व्यावस्थापनको मूल्याङ्कन गर्न लक्षित एक अनुसन्धनात्मक अध्ययनमा सहभागी हुनको लागि तपाईंलाई यो एक अनुरोध हो । अधिकांश बिरामिहरुले शल्यक्रिया पश्चात यदि सन्तोडजनक दु:खाई (पीडा) व्यावस्थापन पाएनन् भने तिनीहरुले दु:खाई (पीडा) को महसुस गर्नेछन् । यो दु:खाई (पीडा) बाट धेरै जसो मामलाहरुमा दु:खाई (पीडा)कम गर्ने औषधीहरु प्रयोग गरेर छुट्कारा पाउन सकिन्छ । यो अध्ययनमा हामीहरुले बिरामिहरुले शल्यक्रिया पश्चात कति दु:खाई (पीडा) को अनुभव गर्छन् भन्ने कुरा, दु:खाई (पीडा) को लागि बिरामिहरुले कस्तो खालको उपचार प्राप्त गर्छन् र दु:खाई (पीडा) को राम्रो व्यावस्थापन को लागि के बिग्न भाधाहरु अझै समेटिएका छैनन् भनी मूल्याङ्कनको जाँचबुझ गर्नेछऔं । तपाईंलाई यो अनुरोधको लागि छनिएको छ किनभने या त तपाईंलाई शल्यक्रियाको लागि सूचिमा राखिएको छ या त ओखलढुङ्गा अस्पतालमा तपाईंको भर्खर मात्र शल्यक्रिया भएको छ । यो अध्ययन नोर्वेको एन.टी.एन.यु. विश्वविद्यालयबाट आउनु भएका दुईजना मेडिकल विद्यार्थीहरुद्वारा ओखलढुङ्गा अस्पतालका वरिष्ठ विशेषज्ञ डा. इरिक बोह्लर र एन.टी.एन.यु. विश्वविद्यालयका प्रोफेसर डा. ओलाभ फ्रेडहेईम्संगको साझेदारीमा गरिएको हो ।

**यो अध्ययनले के माग गर्छ (खोज्छ)?**

तपाईंलाई शल्यकृयापश्चात तपाईंको दु:खाई (पीडा), दु:खाई (पीडा) को उपचार, र अवस्थाको बारेमा १८ वटा प्रश्नहरु सोधिईनेछन् । ती प्रशनहरुको उत्तर दिनको लागि करीब बीस मिनेट लाग्नेछ । शल्यकृया, सिफिश गरिएका दु:खाई कम गर्ने औषधीहरु र दु:खाई कम गर्ने औषधी खाने तरीकाहरु बारेको जानकारी चाहिं हामीहरुले तपाईंको मेडिकल अभिलेखबाट सङ्कलन गर्नेछौं ।

**सम्भावित फाईदा र बेफाईदाहरु**

यो अध्ययनले तपाईंको उपचारको गुणस्तरमा वाधा पुर्याउनेछैन र यसमा कुनै जोखिम सम्लग्न छैन । यदि तपाईंको दु:खाई (पीडा) को उपचार भने जस्तो राम् छैन भने हामीले तपाईंको उपचारमा सम्लग्न डाक्टरलाई खबर गरिदिन्छऔं ताकी तपाईंले दु:खाई (पीडा) बाट अझ राम्रोसंग छुट्कारा पाउन सक्नुहुनेछ ।

**तपाईं बारेको सूचना उपर के हुन्छ ?**

तपाईं बारे दर्ता भएका नमूनाहरु तथा तथ्याङ्कहरु माथी उल्लेख गरिए बमोजिम अध्ययनको उद्देश्यसंग मिल्ने कुरामा मात्र प्रयोग गरिनेछ । सबै नमूनाहरु तथा तथ्याङ्कहरु नाम, परिचय नम्बर वा सोझै चिनिने खालको सूचना बीना नै प्रशोधन गरिनेछन् । तपाईंको नमूनाहरु तथा तथ्याङ्कहरुसंग तपाईंलाई एउटा साङ्केतिक नम्बरले जोड्नेछ । नामें सूचीमा केबल परियोजनाका आधिकारिक व्याक्तिको मात्र पहुँच हुनेछ र तपाईंलाई पहिचान गर्न सकिनेछ । तथ्याङ्क सङ्कलन गरिएको ५ वर्ष पछि पहिचान दिने सूची रद्द गरिनेछ । नतीजाहरु प्रकाशन हुँदा अध्ययनको नतीजामा तपाईंलाई पहिचान गर्न सम्भव हुनेछैन ।

**अध्ययनमा हुने सहभागिता स्वेच्छिक हो**

कुनै पनि समय र कुनै खास कारण नबताईकनै यो अध्ययनमा सहभागीहुने मनसायबाट तपाई पछिहट्नसक्निहुनेछ । तपाईंको थप उपचारको लागि यसले कुनै पनि प्रभाव पार्नेछैन । यदि तपाईं सहभागी हुन चाहनुहुन्छ भने अन्तिम पृष्ठमा स्वीकृतीको घोषणा स्वरुप सहीछाप गर्नुहोस् । यदि यो बखत तपाईं सहभागी हुन मञ्जूर हुनुहुन्छ भने पनि पछी कुनै पनि हालतमा तपाईंको उपचारमा असर नपारिकनै तपाईं तपाईंको मञ्जूरिबाट पछिहट्नसक्नुहुन्छ । यदि तपाई पछाडि तपाई तपाईंको मञ्जूरी फिर्ता लिन चाहनुहुन्छ भने वा अध्ययनको बारेमा तपाईंको कुनै प्रशनहरु छन् भने तपाईंले मेडिकल विद्यार्थिहरु माथिल्डे नेभल्याणडलाई mathilde.nevland@gmail.com मा र आईरिक आशेईमलाई aasheim.eirik@gmail.com मा सम्पर्क गर्न सक्नुहुनेछ । तथ्याङ्कहरु सङ्कलनको लागि माथिल्डे नेभल्याणड र आईरिक आशेईम जिम्मेवार हुनेछन् ।

**गोपनीयताको रक्षा**

हामीले सङ्कलन गर्ने तथ्याङ्कमा तपाईँको नाम / लिङ्ग, तपाईँलाई असह्य दु:खाई (पीडा) भए नभएको कुरा, तपाईँको रक्सी र औषधीको प्रयोग, यसभन्दा अघीको दु:खाई (पीडा) बाट छुट्काराको लागि प्रयोग भइका कुरा, तपाईँको कस्तो खालको शल्यक्रिया भएको थियो भन्ने कुरा, अहिले र शल्यक्रिया भएको दुबै बखत कस्तो खालको दु:खाई (पीडा) बाट छुट्कारा पाउने कुरा तपाईँले प्राप्त गरेनु भो सो कुरा र तपाईँलाई चलाईएको नचलाईएको कुरा हुनेछन् । त्यो तथ्याङ्कमा शल्यक्रिया पश्चात दु:खाई (पीडा) र दु:खाई (पीडा) व्यावस्थापन दुवैको तपाईँको अनुभव सम्बन्धी १६ वटा प्रश्नहरुमाथीको तपाईँको उत्तरहरु पनि हुनेछन् ।

सङ्कलित तथ्याङ्कहरुको लागि जिम्मेवार व्यक्ति यो अध्ययनका सबै बिरामिहरुको तथ्याङ्कमा पहुँच हुनेछ । यो तथ्याङ्क गोप्य हुनेछ । यो तथ्याङ्क भण्डारण र विश्लेषणको लागि नोर्वे पठाईनेछ ।

यो अध्ययनको नतीजा प्रकाशन गर्नु पर्दा अधिकारीहरु वा सुपरिवेक्षण बोर्डले सङ्कलित तथ्याङ्कमा र तपाईँको जर्नलको खुद अंशमा पहुँच गर्न अनुमतिको लागि अनुरोध गर्नेछन् । यसको उद्देश्य चाहिं अध्ययनको जानकारीले तपाईंको जर्नलबाटको जानकारीलाई ईङ्कित गर्न काममा नियन्त्रणहोस् भन्ने हो । जर्नलमा पहुँचहुनेहरु सबैले गोपनीयताको घोषणा गर्नेछन ।

**जानकारीमा तपाईँको पहुँच र तपाईँ बारेको जानकारी रद्द गर्ने तपाईँको अधिकार**

यदि तपाई यो अध्ययनमा सहभाँगी हुन राजी हुनुहुन्छ भने तपाई सम्बन्धी जानकारीमा सुझबुझ प्राप्त गर्ने अधिकार तपाईँसंग छ । सङ्कलित तथ्याङ्कहरुमा भएको कुनै पनि त्रुटिहरु तपाईँ सच्याउन सक्नुहुन्छ । यदि तपाईँ यो अध्ययनबाट पछिहट्न चाहनुहुन्छ भने विश्लेषणको एक अंश नहुँदासम्म वा वैज्ञानिक प्रकाशनमा प्रयोग नहुँदासम्म तपाईँबारेको सबै तथ्याङ्कहरु तपाई हटाउनसक्नुहुन्छ ।

**लगानी वा खर्च**

यो अध्ययन गर्न एन.टी.एन.यु., नोर्वेजियन प्राविधिक - वैज्ञानिक विश्वविद्यालय र नोर्वेजियन स्टेट शैक्षिक कोषबाट लगानी भएकोछ ।

**अध्ययनको नतीजाको जानकारी**

सम्पन्न भईसकेपछि यो अध्ययनको नतीजा थाह पाउने अधिकार तपाईसंग छ । यदि तपाईँ यो जानकारी प्राप्त गर्न चाहनुहुन्छ भने तपाईँले आईरिक आशेईम लाई aasheim.eirik@gmail.com मा र माथिल्डे नेभल्याणडलाई mathilde.nevland@gmail.com मा सम्पर्क गर्न सक्नुहुनेछ। हामीले त्यो नतीजा २०१६ मा प्राप्त गर्ने आशा राखेकाछौं ।

**श्वीकृती**

यो अध्ययन आर. ई. के. (नोर्वेजियन क्षेत्रिय ईथिकल समिति) र स्वास्थ्य हेरचाह अनुसण्धान ईथिक्स ओखलढुङ्गा अस्पताल आन्तरिक व्यावस्थापन समितिद्वारा स्वीकृत गरिएको छ।

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नाम औंठा छाप मिति

**Appendix VII**

(एक अनुसन्धनात्मक परियोजनामा सहभागिताको लागि अनुरोध

## ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चातको दु:खाई (पीडा) र दु:खाई (पीडा) को व्यावस्थापन

**तपाईँलाई सहभागी हुन किन भनियो?**
एक अनुसन्धनात्मक अध्ययनमा सहभागी हुनको लागि तपाईँलाई यो एक अनुरोध हो । तपाईलाई यो अनुरोधको लागि छनिएको छ किनभने या त तपाईँलाई शल्यक्रियाको लागि सूचिमा राखिएको छ या त ओखलढुङ्गा अस्पतालमा तपाईँको भर्खर मात्र शल्यक्रिया भएको छ ।

अधिकांश बिरामिहरुले शल्यक्रिया पश्चात यदि सन्तोडजनक दु:खाई (पीडा) व्यावस्थापन पाएनन् भने तिनीहरुले दु:खाई (पीडा) को महसुस गर्नेछन् । यो अध्ययनमा हामीहरुले बिरामिहरुले शल्यक्रिया पश्चात कति दु:खाई (पीडा) को अनुभव गर्छन् भन्ने कुरा, र तिनीहरुले पाएका उपचारले दु:खाई (पीडा) बाट मुक्त भए वा भएनन् भन्ने कुरा जान्न चाहन्छौं । तपाईँको उत्तरहरुको सहायताले हामीले ओखलढुङ्गा अस्पतालमा दु:खाई (पीडा) व्यावस्थापनलाई सुधार्न सक्नेछौं ।

यो अध्ययन नोर्वेको एन.टी.एन.यु. विश्वविद्यालयबाट आउनु भएका दुईजना मेडिकल विद्यार्थीहरुद्वारा ओखलढुङ्गा अस्पतालका वरिष्ठ विशेषज्ञ डा. इरिक बोह्लर र एन.टी.एन.यु. विश्वविद्यालयका प्रोफेसर डा. ओलाभ फ्रेडहेईम्संगको साझेदारीमा गरिएको हो ।

**यदि तपाईँ सहभागी हुनुहुन्छ भने के हुनेछ?**
तपाईँलाई तपाईँको बाबा आमा / अभिभावकहरुको समुपस्थितिमा शल्यकृयापश्चात तपाईँको दु:खाई (पीडा), दु:खाई (पीडा) को अनुभव र अस्पतालमा यसलाई कसरी दर्ता एवं उपचार गरियो भन्ने बारेमा प्रश्नहरु सोधिनेछन् । ती प्रशनहरु एक अनुवादक संगसंगै माथिल्डे नेभल्याणड र आईरिक आशेईमद्वारा सोधिनेछन् । हामीहरुले शल्यकृया, दु:खाई कम गर्ने औषधीहरुको बारेको जानकारी चाहिं तपाईँको मेडिकल अभिलेखबाट सङ्कलन गर्नेछौं ।

यो अध्ययनमा सहभागी हुँदा तपाईँलाई कुनै हानी हुँदैन र यदि हामीले तपाईँको दु:खाई (पीडा) को उपचार भने जस्तो राम्रो छैन भनी पत्तो लगायौं भने हामीले तपाईँको उपचारमा सम्लग्न डाक्टरलाई खबर गरिदिन्छौं ताकी तपाईँले दु:खाई (पीडा) बाट अझ राम्रोसंग छुट्कारा पाउन सक्नुहुनेछ ।

ती प्रशनहरुको उत्तर दिनको लागि करीब दशदेखि बीस मिनेट लाग्नेछ । तपाईंहरु बयस्क र बालबालिकाहरु दुबैलाई सोधिएकै प्रश्नहरु अन्य बिरामिहरुलाई पनि सोधिनेछन् ।

यो अध्ययनमा सहभागिता बारे यदि तपाईं वा तपाईंको बाबा आमा / अभिभावकसंग कुनै प्रश्नहरु छन् भने तपाईंले सहभागी हुने वा नहुने निर्णय गर्नु अगावै हामी तपाईंको प्रश्नहरुको जवाफ दिनेछौं ।

**यदि तपाईं सहभागी हुनुहुन्न भने के हुनेछ?**
सहभागी हुन यो पूर्णरुपेण स्वेच्छिक हुनेछ र तपाईं हुन्न भन्न स्वतन्त्र हुनुहुन्छ । सहभागी हुनबाट बाहिरिंदा तपाईंको लागि कुनै पनि नकरात्मक असरहरु हुनेछैन ।

**Appendix VIII**

एक अनुसन्धनात्मक परियोजनामा सहभागिताको लागि अनुरोध

# ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चातको दु:खाई (पीडा) र शल्यक्रिया पश्चातको दु:खाई (पीडा) को व्यावस्थापन

**पृष्ठभूमि र उद्देश्य**

ओखलढुङ्गा अस्पतालमा शल्यक्रिया पश्चात दु:खाई (पीडा) व्यावस्थापनको मूल्याङ्कन गर्न लक्षित एक अनुसन्धनात्मक अध्ययनमा सहभागी हुनको लागि तपाईँलाई यो एक अनुरोध हो । अधिकांश बिरामिहरुले शल्यक्रिया पश्चात यदि सन्तोडजनक दु:खाई (पीडा) व्यावस्थापन पाएनन् भने तिनीहरुले दु:खाई (पीडा) को महसुस गर्नेछन् । यो दु:खाई (पीडा) बाट धेरै जसो मामलाहरुमा दु:खाई (पीडा) कम गर्ने औषधीहरु प्रयोग गरेर छुट्कारा पाउन सकिन्छ । यो अध्ययनमा हामीहरुले बिरामिहरुले शल्यक्रिया पश्चात कति दु:खाई (पीडा) को अनुभव गर्छन् भन्ने कुरा, दु:खाई (पीडा) को लागि बिरामिहरुले कस्तो खालको  उपचार प्राप्त गर्छन् र दु:खाई (पीडा) को राम्रो व्यावस्थापन को लागि के बिग्न भाधाहरु अझै समेटिएका छैनन्  भनी मूल्याङ्कनको जाँचबुझ गर्नेछौं । तपाईंलाई यो अनुरोधको लागि छनिएको छ किनभने या त तपाईँलाई शल्यक्रियाको लागि सूचिमा राखिएको छ या त ओखलढुङ्गा अस्पतालमा तपाईँको भर्खर मात्र शल्यक्रिया भएको छ । तपाईँको उत्तरहरुको सहायताले हामीले ओखलढुङ्गा अस्पतालमा दु:खाई (पीडा) व्यावस्थापनलाई सुधार्न सक्नेछौं ।

यो अध्ययन नोर्वेको एन.टी.एन.यु. विश्वविद्यालयबाट आउनु भएका दुईजना मेडिकल विद्यार्थीहरुद्वारा ओखलढुङ्गा अस्पतालका वरिष्ठ विशेषज्ञ डा. इरिक बोह्लर र एन.टी.एन.यु. विश्वविद्यालयका प्रोफेसर डा. ओलाभ फ्रेडहेईम्संगको साझेदारीमा गरिएको हो ।

**यो अध्ययनले के माग गर्छ (खोज्छ)?**

तपाईँलाई तपाईँको बाबा आमा /  अभिभावकहरुको समुपस्थितिमा शल्यक्रियापश्चात तपाईँको दु:खाई (पीडा), दु:खाई (पीडा) को उपचार, र अवस्थाको बारेमा केहि प्रश्नहरु सोधिनेछन् । ती प्रशनहरुको उत्तर दिनको लागि करीब बीस मिनेट लाग्नेछ । ती प्रशनहरु  एक अनुवादक संगसंगै माथिल्डे नेभल्याणड र आईरिक आशेईमद्वारा सोधिनेछन् । हामीहरुले शल्यक्रिया, दु:खाई कम गर्ने औषधीहरुको बारेको जानकारी चाहिं तपाईँको  मेडिकल अभिलेखबाट सङ्कलन गर्नेछौं ।

**सम्भावित फाईदा र बेफाईदाहरु**

यो अध्ययनले तपाईंको उपचारको गुणस्तरमा वाधा पुर्याउनेछैन र यसमा कुनै जोखिम सम्लग्न छैन । यदि तपाईंको दु:खाई (पीडा) को उपचार भने जस्तो राम्रो छैन भनी पत्ता लागेमा हामीले तपाईंको उपचारमा सम्लग्न डाक्टरलाई खबर गरिदिन्छौं ताकी तपाईंले दु:खाई (पीडा) बाट अझ राम्रोसंग छुट्कारा पाउन सक्नुहुनेछ ।

**तपाईं बारेको सूचना उपर के हुन्छ ?**

तपाईं बारे दर्ता भएको जानकारी  यो अध्ययनको एक अंशको रुपमा प्रयोग गरिने छ र यसलाई गोप्यसाथ सुरक्षित राखिने छ। यो अध्ययनसंग काम गर्ने कर्मचरीको मात्र तथ्याङ्गमा पहुँच हुनेछ ।

**यो अध्यनयनमा सहभागिता हुने काम स्वेच्छिक हो**

सहभागी हुन यो पूर्णरुपेण स्वेच्छिक हुनेछ र तपाईं हुन्न भन्न स्वतन्त्र हुनुहुन्छ । सहभागी हुनबाट बाहिरिंदा तपाईंको लागि कुनै पनि नकरात्मक असरहरु हुनेछैन । कुनै पनि समय र कुनै खास कारण नबताईकनै यो अध्ययनमा सहभागीहुने मनसायबाट तपाई पछि हट्न सक्नुहुनेछ ।

यो अध्ययनमा सहभागिता बारे यदि तपाईं वा तपाईंको बाबा आमा / अभिभावकसंग कुनै प्रश्नहरु छन् भने तपाईंले सहभागी हुने वा नहुने निर्णय गर्नु अगावै हामी तपाईंको प्रश्नहरुको जवाफ दिनेछौं ।

## Appendix IX

१. यस अन्तिम दिनमा हामी तपाईको दुखाईको मात्रा मुल्याङ्कन गर्न चाहन्छौं। कृपया आफ्नो दुखाईको मात्रालाई ० देखी १० बीचको अंक दिनुहोला जसमा ० बराबर दुखाई नभएको तथा १० बराबर खप्न नसकिने दुखाई बुझिन्छ।

क. हालको/अहिलेको दुखाईको अवस्था

| ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | १० |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

ख. खोक्दा, लामो श्वास फेर्दा वा शरीर चलाउदाको अवस्थामा हुने कडा दुखाई

| ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | १० |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

ग. खोक्दा, लामो श्वास फेर्दा वा शरीर चलाउदाको अवस्थामा हुने मन्द दुखाई

| ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | १० |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

घ. आराम गरेको अवस्थामा हुने कडा दुखाई

| ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | १० |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

ङ. आराम गरेको अवस्थामा हुने मन्द दुखाई

| ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | १० |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

च. दुखाईको औसत तिब्रता/ मात्रा

| ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ | १० |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

२. के तपाईंलाई दुखाईको लागि थप औषधीको लागि सोधिएको छ?

| | छ | | छैन |
|---|---|---|---|

३. के तपाईंलाई कसैले दुखाईको औषधी पाएपछीको असरबारे / अवस्थाबारे सोध्नुभएको छ?

| | छ | | छैन |
|---|---|---|---|

४. के तपाईंले आफुले शल्यकृया/ अप्रेसन हुनु भन्दा अगाडि सोचेको दुखाई भन्दा बढी दुखाई महसुस गर्नुभएको छ?

| | छ | | छैन | | सोचे जस्तै |
|---|---|---|---|---|---|

५. तपाईंलाई दुखाईको लागि थप औषधी दियो भने लिनुहुन्छ?

| | छ | | छैन |
|---|---|---|---|

६. तपाईं दुखाईको लागि धेरै औषधी लिन डरानु हुन्छ?

| | छ | | छैन |
|---|---|---|---|

७. तपाईंको शल्यकृया/ अप्रेसन हुनु अघी आउन सक्ने दुखाई बारे जानकारी थियो?

| | छ | | छैन |
|---|---|---|---|

८. तपाईंको शल्यकृया/ अप्रेसन हुनु अघी त्यसलाई काम गर्न चहिन सक्ने औषधीहरुको बारे जानकारी थियो?

| | छ | | छैन |
|---|---|---|---|

९. के तपाईं दुखाईको निम्ती पाइराखेको उपचारबाट सन्तुस्ट हुनुहुन्छ?

| | छ | | छैन | | दुबै होइन |
|---|---|---|---|---|---|

१०. तपाईलाई कसैले आफ्नो दुखाईको मात्रा/तिब्रताबारे सोध्नु भएको छ?

| | छ | | छैन |
|---|---|---|---|

११. शल्यकृया/अप्रेसन पश्चात तपाईलाई सबभन्दा कुन लक्षणले बढी सताएको छ?

| | दुखाई | | वाकवाक बान्ता | | थकान | | आत्तिने छटपट हुने |
|---|---|---|---|---|---|---|---|

१२. अस्पतालमा दुखाईको लागि पाउने उपाचारबारे तपाईको कुनै सुजाब छ?

---

उमेर:

लिङ :

| | | | | |
|---|---|---|---|---|
| क. शल्यक्रिया गरेको भागमा पहिला देखिको दिर्घ रूपमा रहेको दुखाई (>६ महिना) | | छ | | छैन |
| ख. शल्यक्रिया गरेको भागभन्दा बहेकको अङमा दिर्घ रूपमा रहेको दुखाई (>६ महिना) | | छ | | छैन |
| ग. मध्यपान सेवन | | छ | | छैन |
| घ. मादकपदार्थ सेवन | | छ | | छैन |

ङ. भर्ना हुनु अगाडि नियमित रूपमा प्रयोग भएको दुखाईको औषधी

Paracetamol ☐ NSAID ☐ Kodein/paracetamol ☐ Other weak opioid ☐ Strong opioid ☐

च. घुमफिर

कुनै सहयोग बिना नै घुम फिर गर्न सक्ने ☐

सहयोग/ सहाएताले घुम फिर गर्न सक्ने ☐

व्हील् चियरको सहाएताले घुम फिर गर्न सक्ने ☐

बिरामीले खाटको वारीपरी घुम फिर गर्न सक्ने ☐

अप्रेशन् पछी बिरामी खाटमा नै सुतेको अवस्था ☐

छ. भर्ना हुँदा बिरामीसँग आफ्नो अभिभावक साथमा रहेको ☐

ज. बिरामीले अस्पताल सेवा कोशबाट उपचारको लागि सहयोग पएको☐

**Appendix X**

**Operator registers:**

1. Surgical speciality: ……
2. Open surgery ☐ or Superficial surgery ☐
3. Elective operation ☐ or Acute operation ☐
4. Does any of these factors limit the quality of the pain relieving treatment in this patient?
    a. Patient economy ☐
    b. Access to medications ☐
    c. Access to more advanced methods for pain relieving treatment (epidural, peripheral nerve block) ☐
    d. Insufficient monitoring of the patient (would have dared to give more analgesics with better monitoring system or more experienced nurses) ☐

    None of these: ☐

5. If equipment and expertise were available, would you think that this patient would benefit from:
    a. Epidural analgesia the first postoperative days ☐
    b. Peripheral nerve block ☐
    c. Patient controlled analgesia (morphine) ☐
    d. Fixed dosage with opioid depot formulation the first postoperative days ☐

    None of these: ☐

---

**Students register:**

| **ASA** | | **Kirurgisk teknikk** | | **Fast** | | **Behov** | |
|---|---|---|---|---|---|---|---|
| I | | Åpen | | Paracet | | Paracet | |
| II | | Kikkhull | | NSAID | | NSAID | |
| III | | Ortopedi | | Steroid (+ op) | | Op. tablett | |
| IV | | Overflate (ønh) | | Op. depot | | Op. injeksjon | |
| **Inngrep** | | **Anestesi** | | Op. tablett | | PCA | |
| Elektivt | | Lokal | | Op. plaster | | Bolus på EDA | |
| Akutt | | Ledning | | Op. injeksjon | | | |
| **Kirurgisk spes.** | | Spinal | | Op. infusjon | | | |
| Ortopedi | | Epidural | | Op. PCA | | | |
| Gynekologi | | Narkose gass | | Ketamin inf. | | | |
| - Keisersnitt | | Narkose ket | | Gabapentin | | | |
| ØNH | | Sedasjon | | Annet : | | | |
| Øye | | | | | | | |
| Urologi | | | | Epidural | | | |
| Gastrokirurgi | | | | Intrathecal | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - Appendicitt | | | | Påfyll lokal | | | |
| Mamma/endo | | | | Kateter perifer | | | |
| Plastikk | | | | - Bolus | | | |
| Thorax | | | | - Kontinuerlig | | | |
| Karkirurgi | | | | | | | |

| | |
|---|---|
| I journal/kurve er det systematisk registrert smerteintensitet? | |
| Hvis epidural: er det i journalen dokumentert hvor høyt lavt epiduralen tar? | |