Kliiniline küsimus nr 2.

Does providing/ not providing information about acute pain management options associated with forthcoming surgery or procedure affects pain treatment outcome?

Critical outcomes: pain intensity, pain relief, anxiety reduction, rescue mediaction (incl opioid consumption), patient (caregiver) satisfaction with pain treatment.

Süstemaatilised ülevaated
Kokkuvõte süstemaatilistest ülevaadetest
We found **4 systematic reviews** estimating the effect of preoperative pain education on postoperative outcomes.
The content of preoperative education in majority of studies was procedure specific i.e. providing information about surgery. Only a few studies were focused on pain management education: pain management , pain measurement, conversations about benefits of well-treated pain, asking for help, side-effects, PCA pump management. Format: verbal education combined with other methods like leaflets, video-, PowerPoint presentations, computer-based multimedia programme.
Gurusamy S.K (2014): Included one study (from 4) estimating the effectiveness of pain education.

1. Blay et al 2005. RCT ,n= 93 (41/52) elective cholecystectomy patients. Results: No signifficant difference in **pain scores** between groups

Table 2: Comparison of mean VAS pain intensity scores between SP and EI groups during the post-operative stage in hospital, following discharge and following treatment (p=0.079)

Pre-admission education	Mean inpatient pain intensity scores	Mean post-discharge pain intensity scores	Mean score following pain management
SP (n=47)	6.66	4.80	2.38
EI (n=35)	5.05	4.19	1.90

Louw A. (2013): This systematic review is based on 13 studies, involving total of 1017 subjects who underwent total joint arthroplasties of the hip and knee. Two studies included pain education

1. McDonald et al 2001. RCT, n= 31,(13/18 control). Results: overall **pain scores** were same in both groups but **pain decrease** was greater (p< .05) and faster (p< .001) in experimental group.
2. Sjöling et al 2003 RCT , n = 60 (30/30) Results: **pain relief** - no difference between the groups but treatment group had statistically significant lower degree of **anxiety** (p< 0,05) and were more **satisfied** with treatment , the difference between the groups was statistically significant (p<0.05). **Analgesic consumption** was similar between groups.

Ronco M (2012): In this review 7 studies were included estimating the effect of pain education on postoperative outcomes.

1. Thomas et al 2008 – non-randomised pre-/post-test two-group design, n = 156 (78/78), orthopaedic surgery. Results: no difference in **pain scores** between groups
2. Yeh et al 2007- non-randomised pre-/post-test two-group design, n= 60 (30/30), orthopaedic surgery. Results: better **pain relief** in experimental group (t= -7.61,p< 0,001)
3. Deyirmenjian et al 2006- RCT, n = 110 (53/57), cardiac surgery. Results: higher **postoperative anxiety** in experimental group vs control (10,5 vs 7,5 ; p = 0,08)
4. Blay et al 2005 - RCT ,n= 93 (41/52) elective cholecystectomy patients. Results: No signifficant difference in **pain scores** between groups (p= 0,079)
5. Chumbley et al 2004- RCT, n= 225 (75/75/75), different types of surgery. Results: no significant difference in **pain scores** (p = 0,23), **morphine consumption** (p = 0,47), **anxiety** (p= 0,31)
6. Watt-Watson et al 2004 – RCT, n= 406 (204/202), cardiac surgery. Results: no significant differences in **pain scores, analgesic consumption** or **patient satisfaction.**

7. Pellino et al 2005 – RCT, n= 65 (32/33), orthopaedic surgery. Results: no significant differences in **pain** intensity and postoperative **anxiety**

Johansson K (2004): included two studies about pain education.

1. McDonald et al 2001. - RCT,n= 31 (13/18) Results: overall **pain scores** were same in both groups but **pain decrease** was greater (p<.05) and faster (p<.001) in experimental group.
2. Timmons et al 1993 –CL, n= 86 (43/43), majority orthopaedic surgery. Results: management of using PCA pain was better in experimental group (score 22,279 vs 19,953; SD 3,22 vs 4,525; p<0,0306)

Viited

Kokkuvõtte (abstract või kokkuvõtlikum info)	Viide kirjandusallikale
Generally, before being operated on, patients will be given informal information by the healthcare providers involved in the care of the patients (doctors, nurses, ward clerks, or healthcare assistants). This information can also be provided formally in different formats including written information, formal lectures, or audio-visual recorded information. OBJECTIVES To compare the benefits and harms of formal preoperative patient education for patients undergoing laparoscopic cholecystectomy. SEARCH METHODS: Cochrane Central Register of Controlled Trials (CENTRAL) (Issue 2, 2013), MEDLINE, EMBASE, and Science Citation Index Expanded to March 2013. Selection criteria: Randomised clinical trials irrespective of language and publication status. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted the data. We planned to calculate the risk ratio with 95% confidence intervals (CI) for dichotomous outcomes, and mean difference (MD) or standardised mean difference (SMD) with 95% CI for continuous outcomes based on intention-to-treat analyses when data were available. MAIN RESULTS: A total of 431 participants undergoing elective laparoscopic cholecystectomy were randomised to formal patient education (215 participants) versus standard care (216 participants) in four trials. The patient education included verbal education, multimedia DVD programme, computer-based multimedia programme, and PowerPoint presentation in the four trials. All the trials were of high risk of bias. One trial including 212 patients reported mortality. There was no mortality in either group in this trial. None of the trials reported surgery-related morbidity, quality of life, proportion of patients discharged as day-procedure laparoscopic cholecystectomy, the length of hospital stay, return to work, or the number of unplanned visits to the doctor. There were insufficient details to calculate the mean difference and 95% CI for the difference in pain scores at 9 to 24 hours (1 trial; 93 patients); and we did not identify clear evidence of an effect on patient knowledge (3 trials; 338 participants; SMD 0.19; 95% CI -0.02 to 0.41; very low quality evidence), patient satisfaction (2 trials; 305 patients; SMD 0.48; 95% CI -0.42 to 1.37; very low quality evidence), or patient anxiety (1 trial; 76 participants; SMD -0.37; 95% CI -0.82 to 0.09; very low quality evidence) between the two groups. AUTHORS' CONCLUSIONS:	Gurusamy S.K; Vaughan J; Davidson B Formal education of patients about to undergo laparoscopic cholecystectomy Cochrane Database of Systematic Reviews Vol (29; 2014)

Due to the very low quality of the current evidence, the effects of formal patient education provided in addition to the standard information provided by doctors to patients compared with standard care remain uncertain. Further well-designed randomised clinical trials of low risk of bias are necessary.	

Patient education compared with no patient education for patients undergoing laparoscopic cholecystectomy

Patient or population: patients undergoing laparoscopic cholecystectomy.
Settings: secondary or tertiary hospital.
Intervention: patient education.
Comparison: no patient education.

Outcomes	Effect estimate	No of participants (studies)	Quality of the evidence (GRADE)
Patient knowledge	The mean patient knowledge in the intervention groups was **0.19 standard deviations higher** (0.02 lower to 0.41 higher)	338 (3 studies)	⊕◯◯◯ **very low**[1,2,3]
Patient satisfaction	The mean patient satisfaction in the intervention groups was **0.48 standard deviations higher** (0.42 lower to 1.37 higher)	305 (2 studies)	⊕◯◯◯ **very low**[1,2,3]
Patient anxiety	The mean patient anxiety in the intervention groups was **0.37 standard deviations lower** (0.82 lower to 0.09 higher)	76 (1 study)	⊕◯◯◯ **very low**[1,3]

None of the trials reported surgery-related morbidity, quality of life, proportion of people discharged as day-procedure laparoscopic cholecystectomy, length of hospital stay, return to work, or the number of unplanned visits to the doctor

GRADE Working Group grades of evidence
High quality: Further research is very unlikely to change our confidence in the estimate of effect.
Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
Very low quality: We are very uncertain about the estimate.

[1] The trial(s) was (were) of high risk of bias.
[2] There was severe heterogeneity as noted by the I^2 statistic and the lack of overlap of confidence intervals.
[3] The confidence intervals overlapped 0 and minimal clinically important difference. The total number of patients in the intervention and

AIMS: This paper presents a systematic review whose aim was to describe the scope and methods of the current literature on preoperative patient education and to identify the effects of this education. Background. Preoperative patient education is a common and important inter- vention in surgical nursing, yet there is very limited systematic evidence on its precise role. METHODS: The Medline, CINAHL, Eric, Psycinfo and Social Sciences Index databases and the Cochrane Library were searched, covering the period from the beginning of each database to April 2003. Studies were included if they concerned adult orthopaedic patients, preoperative nursing patient education and were based on randomized controlled or clinical trials. Meta-analysis was carried out where appropriate. RESULTS: We identified 11 articles involving 1044 participants. Most studies inclu- ded one experimental and one control group; only two had more than one experi- mental and control group. The educational interventions varied widely, but the majority were based on written materials alone, or written materials in combination with other teaching methods. The most common outcome measures related to pain, knowledge, anxiety, exercises and length of stay, and the least common to self-efficacy and empowerment. The methodological quality of the studies varied. Almost all reported one or more statistically significant effects. Based on the findings of the meta-analysis, preoperative education appears to have some impacts on patients' anxiety and knowledge levels. CONCLUSIONS: The review clearly highlights the need for well-designed, methodo- logically sound research into the outcomes of patient education. It also points to the need to study patient education from the point of view of empowerment.	Johansson K., Nuutila L, Virtanen H, Katajisto J & Salantera S. (2005) Journal of Advanced Nursing 50(2), 212–223 Preoperative education for orthopaedic patients: systematic review

RATIONALE AND OBJECTIVES: The aim of this study was to describe preoperative educational interventions (including content and delivery time) and postoperative outcomes as considered in studies evaluating the effectiveness for patients undergoing major surgery published from 2004 to 2010. METHODS: A systematic review of preoperative education and its effects on postoperative patient outcomes was undertaken. A search was conducted of the PubMed, CINAHL and EBMR databases, including the Cochrane Central Register of Controlled Trials. Randomised controlled trials, or at least clinical trials including pre-/post-test evaluations, with educational interventions performed by nurses preoperatively and outcomes evaluated postoperatively, and written in English, were included. RESULTS: A total of 19 studies involving 3944 patients were retrieved. Of these, 12 were randomised controlled trials. Interventions were based on verbal education, on written/visual education, or both. The content of interventions varied widely. Frequent outcomes evaluated were anxiety, knowledge, pain and length of stay. Objective knowledge (what a patient retains from education) was the only positive outcome influenced by education. CONCLUSIONS: Current trends in preoperative education are: scheduling education early; increased frequency of message exposure through several interventions and/or reinforcements; content frequently addressing postoperative management; the measurement of outcomes such as patients' cognitive, experiential and biophysiological aspects. Both the clinical and research implications that emerged from the findings are discussed.	Ronco M, Iona L, Patient education outcomes in surgery: a systematic review from 2004 to 2010 Int J Evid Based Healthc 2012; 10: 309-323
OBJECTIVE: Evaluate content and educational delivery methods of preoperative education in total joint arthroplasties of the hip and knee (THA and TKA) addressing postoperative pain. DATA SOURCES: Systematic searches conducted on Biomed Central, BMJ.com, CINAHL, the Cochrane Library, NLM Central Gateway, OVID, ProQuest (Digital Dissertations), PsycInfo, PubMed/Medline, ScienceDirect, and Web of Science. Secondary searching (pearling) was undertaken. DatA EXTRACTION: Data were extracted utilizing the participants, interventions, comparisons, and outcomes approach. STUDY SELECTION: All randomized controlled trials (RCTs) evaluating the effect of preoperative education on postoperative pain in THA and TKA surgery were considered for inclusion. LIMITATIONS: Studies published in English; published within the last 20 years and patients over the age of 18. No limitations were set on specific outcome measures of pain. DATA SYNTHESIS: This review included 13 RCTs involving a total of 1,017 subjects who underwent THA or TKA. Educational delivery methods comprised verbal one-on-one or group education sessions, delivered within 4 weeks of surgery lasting an average of 30 minutes, and accompanied by other written materials. The educational content centered on descriptions of preoperative preparation, hospital stay, surgical procedure, immediate/intermediate experiences, expectations following	Louw A; Diener I et al Preoperative education addressing postoperative pain in total joint arthroplasty: Review of content and educational delivery methods Physiotherapy Theory and Practice ; 29(3):175-194, 2013

surgery, rehabilitation, encouragement/reassurance, and answering common question associated with the surgical experience. CONCLUSIONS: Preoperative education centered on a biomedical model of anatomy and pathoanatomy as well as procedural information has limited effect in reducing postoperative pain after THA and TKA surgeries. Preoperative educational sessions that aim to increase patient knowledge of pain science may be more effective in managing postoperative pain.	

Ravijuhendid

1. S3-Leitlinie ☐Behandlung akuter perioperativer und posttraumatischer Schmerzen (AWMF-Register Nr. 041/001) Stand: 21.05.2007 inkl. Änderungen vom 20. 04. 2009 (DE-07) 26 studies including placebo studies which are not involved in our review.
2. Guidelines on Pain Management and Palliative Care A. Paez Borda (chair), F. Charnay-Sonnek, V. Fonteyne, E.G. Papaioannou European Association of Urology 2013 (URO-13) Recommendation based on single clinical guideline which is not involved in our review.
3. Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine Acute Pain Management: Scientific Evidence Third Edition 2010 (AU-10) Pamela E Macintyre, David A Scott, Stephen A Schug, Eric J Visser, Suellen M Walker. Recommendations based on 22 studies and 4 systematic reviews.

Evidences from guidelines by critical outcomes:
Pain relief:
The positive impact of preoperative education (behavioural-cognitive interventions) on postoperative pain relief and **analgesic consumption** is shown in one guideline (URO-13). Another guideline (AU-10) considers that evidence for the benefit of patient education in terms of better pain relief is inconsistent.
Anxiety:
Positive effect of behavioural-cognitive interventions on the reduction of anxiety (URO-13, DE-07)
Preoperative education improves patient or carer knowledge of pain and encourages a more positive attitude towards pain relief (AU 10). German guideline (DE-07) emphasizes the importance of individualized and structured information because it is not allowed to suggest unrealistic expectations and fear.
Two guidelines (AU-10 and DE-07)) have been evaluated the format and timing of patient education: Written information given to patients prior to seeing anaesthetist is better than verbal information given at the time of the interview.
Structured preoperative education may be better than routine information and information presented in video format may be better still.
Recommendations: all patients must be informed about postoperative pain, treatment possibilities, pain measurement tools. Important factors preparing teaching strategy and methods: content, timing and format of education.

1	surgery.mp. [mp=title, short title, abstract, full text, keywords, caption text] (2849)
2	(patient education or patient information).mp. [mp=title, short title, abstract, full text, keywords, caption text] (380)
3	postoperative pain.mp. [mp=title, short title, abstract, full text, keywords, caption text] (265)
4	postoperative anxiety.mp. [mp=title, short title, abstract, full text, keywords, caption text] (6)
5	1 or 2 (3087)
6	3 and 5 (236)
7	4 and 5 (5)

Lapsed
1. Süstemaatilised ülevaated: ei leidnud ülevaateid mis annaks lisainformatsiooni.
2. Ravijuhendid:

- *Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine Acute Pain Management: Scientific Evidence Third Edition 2010 (AU-10) Pamela E Macintyre, David A Scott, Stephen A Schug, Eric J Visser, Suellen M Walker.*
  Lapsi käsitlevas osas seda teemat ei puudutata.
- *Good Practice in Postoperative and Procedural Pain Management 2nd Ed, 2012*
  Konkreetselt patsiendi või vanemate õpetamist ei käsitleta kuid on välja toodud, et postoperatiivse valuravi planeerimine ja organiseerimine peab algama preoperatiivselt koostöös patsiendi ja/või tema hooldajaga.

3. Üksikuuringud: Preoperatiivne informeerimine valu tugevust ei mõjuta, vähendab nii laste kui ka vanemate ärevust ja parandab teadmisi valuravist.

Autor, aasta	Patsiendid	Interventsioon	Tulemused
Crandall 2008	60 pt, 7-13 a	Valuravi voldik vs tavapärane informatsioon	Ärevus, VAS, une kvaliteet, söömine ↔
Li 2007	203 pt, 7-12 a	" therapeutic play" vs tavapärane informatsioon	VAS ↔, ärevus pre kui postop ↓ nii lastel kui vanematel, vanemate rahulolu ↑
Wakimizu 2009	144 pt, eelkooli ealised	Eksperimentaalgrupp: informatiivne video preop visiidil+ uuesti kodus + lisainformatsioon kirjalikult Kontroll: video vaatamine ainult preop visiidil	Eksp grupis teadmised paremad ja ärevust vähem nii pt kui vanematel
Huth 2003	51 lapse vanemad , 3-16 a, kardiokirurgia	Kirjalik valuravi informatsioon vs tavapärane informatsioon	Teadmised ja suhtumine valuravisse parem

Abstract
OBJECTIVE:
To examine the effects of therapeutic play intervention on outcomes of children undergoing day surgery, and to highlight the importance of parental involvement in the psychoeducational preparation of children for surgery.
METHODS:
A randomized controlled trial, two group pre-test and repeated post-test, between subjects design was employed. Hong Kong Chinese children (7-12 years of age; n=203) admitted for elective surgery in a day surgery unit, along with their parents during a 13-month period, were invited to participate in the study. By using a simple complete randomization method, 97 of children with their parents were assigned to the experimental group receiving therapeutic play intervention, and 106 children with their parents were assigned to the control group receiving routine information preparation.
RESULTS:
The results showed that both children and their parents in the experimental group reported lower state anxiety scores in pre- and post-operative periods. Children in the experimental group exhibited fewer instances of negative emotional behaviors and parents in the experimental group reported greater satisfaction. The results, however, find no differences in children's post-operative pain between the two groups.
CONCLUSION:
The study provides empirical evidence to support the effectiveness of using therapeutic play intervention and the importance of parental involvement in the psychoeducational preparation of children for surgery.

Psychoeducational preparation of children for surgery: the importance of parental involvement.

Li HC, Lopez V, Lee TL.

Patient Educ Couns. 2007 Jan;65(1):34-41. Epub 2006 Jul 26.

PRACTICE IMPLICATIONS: The findings heighten the awareness of the importance of integrating therapeutic play and parental involvement as essential components of holistic and quality nursing care to prepare children for surgery	
Abstract OBJECTIVES: To determine whether the implementation of at-home psychological preparation programme for children and family prior to surgery can reduce anxiety for Japanese preschool children undergoing herniorrhaphy and their caregivers assessed as an appropriate outpatient care. METHODS: Patients were randomly assigned to either of two groups: the usual care group or the at-home preparation group. Both two groups viewed a patient-educational video for herniorrhaphy once as outpatients with other patients prior to hospitalization. The control group later underwent surgery without any further preparation. The experimental group watched the same educational video at home again with an auxiliary booklet prior to hospitalization. Children's anxiety was measured by the Wong-Baker FACES Rating Scale (FACES Rating Scale), while caregivers' anxiety was measured by the Spielberger's State Trait Anxiety Inventory (STAI). Both outcomes were measured repeatedly from pre-intervention to 1 month after surgery. RESULTS: Of the eligible 161 patients participating, 158 (98.1%) were randomly assigned to the control group (n = 81) and the experimental group (n = 77), and 144 (89.4%) completed the study. The experimental group gained more information and knowledge about surgery from parents and showed significantly lower scores than the controls for FACES and STAI. CONCLUSION: A specially designed at-home preparation programme as an outpatient care is effective to encourage parent-child verbal interaction concerning surgery and reduce both children and caregivers' anxiety associated with surgery	**A randomized controlled trial of an at-home preparation programme for Japanese preschool children: effects on children's and caregivers' anxiety associated with surgery.** Wakimizu R, Kamagata S, Kuwabara T, Kamibeppu K *J Eval Clin Pract. 2009 Apr;15(2):393-401. doi: 10.1111/j.1365-2753.2008.01082.x.*
Abstract OBJECTIVE: To examine the effects of pre-operative tonsillectomy pain education on children's (7-13 years) self-reported pre-operative anxiety and post-operative clinical outcomes (i.e., anxiety, pain intensity, quality of pain and sleep, oral intake, perceptions of pre-operative education, and pain expectation). METHOD: A prospective, repeated measures, quasi-experimental design using an age appropriate pain education booklet (n = 30) and a standard care comparison group (n = 30) was employed to investigate children's pre- and post-	**Children's pre-operative tonsillectomy pain education: clinical outcomes.** Crandall M, Lammers C, Senders C, Braun JV, Savedra M. *Int J Pediatr Otorhinolaryngol. 2008 Oct;72(10):1523-33. doi: 10.1016/j.ijporl.2008.07.004. Epub 2008 Aug 30.*

education anxiety and post-operative tonsillectomy with or without adenoidectomy subjective experiences in the hospital and home settings. Group comparisons were performed using the Wilcoxon test, Fisher's exact test, repeated measures analysis of variance, and mixed model regression. RESULTS: There were no significant differences between groups for measures of anxiety, pain intensity, quality of pain and sleep, oral intake, or expected pain. There was no change in anxiety before or after pre-operative education (P = 0.85). Ninety-six percent (n = 25) of the children in the intervention group reported that pre-operative pain education helped with their post-operative pain and 72% (n = 16) in the control group stated that it would be helpful to learn about pain before surgery. The majority of children in both the intervention and control groups (96%, 91%, respectively) stated learning about the 0-10 numeric pain intensity scale helped or would be helpful to learn pre-operatively. CONCLUSION: Pre-operative pain education did not affect anxiety. Children valued pre-operative pain education. Pre-operative pain education may influence children's perceptions of medical care.	
ABSTRACT Parents need education about pain so they can support their hospitalized child and manage their child's pain at home. The purpose of this study was to examine the effectiveness of a pain booklet on parental pain support to children experiencing postoperative pain. A randomized, repeated measures, experimental design using a pain education booklet and a standard care comparison group was used to study parents of 51 children (3 to 16 years of age) having cardiac surgery. Measurement techniques used to assess differences in parental pain management included: attitudes about pain medication, child and parent pain ratings (Oucher), opioids used, recovery, satisfaction, and comfort in communication. Results indicate that children do report moderate levels of pain postoperatively. Parents who were exposed to the pain assessment and management for parents education booklet preoperatively significantly increased their knowledge and attitudes toward pain medication scores from pre- to post-test, whereas those in the control group remained stable. Post-test scores were not significantly different between groups. Child and parent pain ratings were significantly and positively correlated. Practice implications include the use of an educational booklet about pain with parents before surgery to increase their knowledge about and attitudes toward pain management. Additionally, a parent may	**A study of the effectiveness of a pain management education booklet for parents of children having cardiac surgery.** Huth MM, Broome ME, Mussatto KA, Morgan SW *Pain Manag Nurs. 2003 Mar;4(1):31-9.*

provide an alternative pain report when a child is unable to or unwilling to self-report their pain.	

Otsing:
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Search,Query,Items found,Time
"Search (""postoperative pain"") OR ""acute pain"") OR ""acute postoperative pain""",39086,09:58:26
Filters: Meta-Analysis
Systematic Reviews
published in the last 10 years
Humans
Child: birth-18 years",62,09:47:39
"Search (((((""patient education"") OR ""patient information"") OR ""parent education"") OR ""preoperative #3,"Search (((((""patient education"") OR ""patient information"") OR ""parent education"") OR ""preoperative published in the last 10 years
Humans
Child: birth-18 years",49,09:41:24