

Long-Term Postoperative Opioid Use in Orthopedics: Help Wanted

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Background and Objectives: Opioids are highly effective for treating acute postoperative pain, but evidence of effectiveness in chronic pain is lacking. The recent increase in the number of chronic opioid users in the Netherlands has resulted in a more restrictive prescription policy by perioperative care professionals. Yet, the number of patients with persistent opioid use after orthopedic surgery is currently unknown. This survey was conducted to assess long-term opioid use after orthopedic surgery.

Methods: A total of 889 patients were invited to fill in the survey. At six months after orthopedic surgery, patients ≥ 18 years were asked to report pain in the operated area (numeric rating scale, 0-10), painkiller use, and opioid use. If opioid use was reported, the patients were asked whether they wanted to taper or stop these analgesics and whether professional help was desirable.

Results: Response rate was 46.7% (n=415). Forty-eight patients (11.6%) were using opioids, of which 41 (85.4%) wanted to taper or stop, and 24 patients preferred professional guidance with this. Opioid users reported significantly higher pain scores in rest and in motion than the patients that used non-opioid painkillers.

Conclusions: Almost 12% of the patients continued opioid use six months after orthopedic surgery. A large proportion of these long-term opioid users expressed a desire to stop and requested professional help with this. All healthcare professionals should pay attention to long-term postoperative opioid use of their patients and discuss tapering options with the patient.

Keywords—opioids, postoperative pain, orthopedics, taper, stop

Orthopedic surgery is known to be very painful.¹ Poorly controlled postoperative pain is a risk factor for delayed physical recovery, poorer surgical outcome, development of chronic postsurgical pain (CPSP), and postoperative complications.^{2,3} In the treatment of acute postoperative pain, opioid analgesics are commonly used.⁴ Although opioids are very effective in treating acute pain, there is hardly any evidence for the use of opioids in the treatment of chronic non-cancer pain.⁵ In addition, long-term opioid use can cause various problems. For example, it carries a high risk of prolonged pain treatment and developing CPSP.⁶ Furthermore, there is tolerance: a predictable decrease in the physical and psychological effect of a substance over time.³ As a result, higher doses are required to achieve the same effect. Along with these problems, physical dependence, addiction, and opioid-induced hyperalgesia are problems associated with long-term opioid use.⁷ In 2000, an article was published in the *Journal of the American Medical Association (JAMA)* stating that the increase in opioid use does not lead to an increase in opioid abuse.⁸ Yet, and unfortunately, a significant increase in opioid use and abuse in the USA has been seen in the following 20 years.^{9,10} There has also been a serious increase in opioid use in the Netherlands, especially of oxycodone. Between 2008 and 2017, the number of strong opioid users are more than tripled. In 2019, 585,000 Dutch people received strong opioids, of which the contribution of long-term users was 22.5%.¹¹

The increase in opioid use in the Netherlands has not gone unnoticed in recent years. For example, the Practice guideline for pain management in primary care was amended: GPs and pharmacists were urged to prescribe opioids restrictively.¹² In addition, the rise in opioid use appeared on the political agenda; after parliamentary questions were asked in 2018, an action plan has been

set up. The aim of this plan was to increase knowledge and awareness of prescribers about the risks of opioids, to apply unity in guidelines, and to signal non-medical and inappropriate opioid use more effectively. The Dutch Society for Anesthesiology (NVA) supports this action plan.¹³

Since then, the perception of opioid use among professionals, patients, and society seems to have changed. There is a lot of attention for problems associated with long-term use, both among patients and healthcare professionals, and there has been a reluctance to prescribe opioids. However, it is currently not clear how often patients continue to use opioids for a long time after surgery.

The primary aim of this study is to measure the incidence of long-term postoperative opioid use after orthopedic surgery in the Sint Maartenskliniek (SMK). Secondary, pain scores and the willingness to discontinue opioids in the long-term users were examined.

METHODS

Approval

This was a retrospective cohort study. The Medical Research and Ethics Committee (MREC) Oost-Nederland declared that the study did not belong to the Medical Research Involving Human Subjects Act (WMO), and therefore, for its execution, it did not require a positive judgment from the MREC Oost-Nederland or another recognized medical-ethical assessment committee. Accordingly, this study was approved by the internal committee of the SMK (no. 999 [approved December 7, 2021]). The study was carried out in the period December 2021 to January 2022.

Study population

Eligible for inclusion were patients ≥ 18 years of age who had undergone orthopedic surgery in the SMK in the period June 2021 to July 2021, minus those who met one of the exclusion criteria. Patients were excluded if they had died, had indicated that they did not wish to be approached for (quality) research, had no email address, had undergone the orthopedic intervention without anesthesiologic involvement, or were currently participating in another SMK intervention study. Furthermore, if patients had a more recent orthopedic surgery in the SMK than the one from the aforementioned period, they were excluded because this might lead to confounded outcome measures. Finally, if patients had multiple orthopedic surgeries in the period June 2021 to July 2021, the most recent surgery was selected as study start point.

Inclusion and outcome measures

Six months after their surgery, eligible patients received an email from their anesthetist asking if they would like to complete an online questionnaire. The email contained a link to the questionnaire in Castor EDC, a digital trial platform used to capture high quality clinical research data with real-time data.

Before entering the questionnaire, written information about the study was given and patients were asked for informed consent. If they did not consent, the questionnaire was terminated. After informed consent was received, the questionnaire was started. The questionnaire was composed of two parts. In the first part, patients were asked to rate their pain in the operated area on the Numeric Rating Scale (NRS), with 0 being “no pain” and 10 being “the worst

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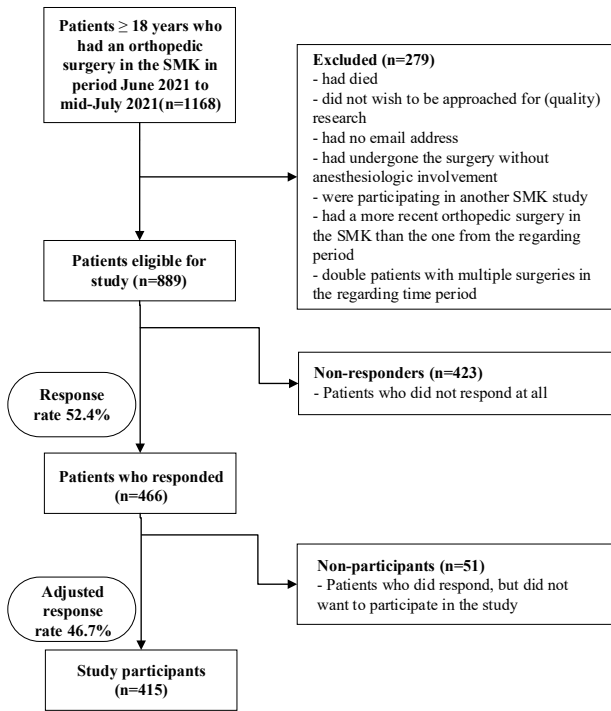


FIGURE 1. Flowchart of inclusion and exclusion of patients.

pain imaginable”. They had to answer this question in duplicate, once for the pain at rest and once for the pain in motion. If they experienced any kind of pain, they were asked to indicate whether the pain was acceptable or not. In the second part, patients were asked to fill in their current painkiller use, including dose and frequency. When a particular opioid was used, patients were asked whether they would like to reduce or stop their painkiller use, and whether they would like professional help with this. Filling in the questionnaire was facilitated with check boxes for questions where multiple answers could apply and radio buttons for numeric rating scales and multiple-choice questions. Patients who had not responded after 4 weeks were sent an automatic reminder via email. For the subject information sheet and subject consent form, see Appendix A; for the full questionnaire, see Appendix B.

Data analysis

The data was collected and stored in Castor EDC. Descriptive analysis was performed using proportions, means with standard deviations or medians with interquartile ranges, depending upon data characteristics. Independent samples T tests were also performed for comparative statistics, and a P-value < 0.05 was defined as statistically significant. Opioid doses were converted to morphine equivalents per 24 hours to allow comparison between patients. Analyzes were performed in SPSS Statistics 27.

Follow-up

There was no follow-up planned in this study. However, patients who had indicated that they would like to receive professional help with tapering and stopping were contacted by their anesthetist to offer professional help. Two treatment options were available. If a patient used > 90 mg of morphine equivalents per 24 hours, this patient could be referred to the Radboudumc to reduce his use of painkillers with the guidance of a psychiatrist specialized in addiction. If the patient used ≤ 90 mg of morphine equivalents per 24 hours, the patient’s own GP was asked to support the patient with tapering. The GP would receive written advice in the form of the recently published Guideline for Tapering Opioids and received the contact information of the anesthetist for consultation if necessary.¹⁴

If patients did not want this referral to either their GP or a psychiatrist, no further actions were taken.

RESULTS

Recruitment and flow of patients is shown in a Consolidated Standards of Reporting Trials (CONSORT) flow diagram (Figure 1).

Table 1 shows an overview of the characteristics of the study subjects and the total group of eligible subjects.

Of the 415 responders, 182 (43.9%) used at least one painkiller. Forty-eight patients (11.6%) used at least one opioid. Fourteen of those 48 used two or more opioids. Tramadol and oxycodone were the most used opioids, with 18 and 15 users, respectively. Out of 48 opioid users, only two have had hip surgery. Knee surgeries were the most common surgery type in the opioid user group, namely 17 times. Forty-one opioid users (85.4%) are willing to stop or reduce their painkiller use, of which 24 (50.0%) would like professional guidance in achieving this.

A total of 318 patients experienced any kind of pain, of which 218 patients thought their pain was acceptable (68.6%). Two hundred and forty-seven subjects (59.5%) scored a one or higher on the NRS when at rest, with a mean pain score of 3.31 ± 2.23 at rest. The proportion of patients who had a pain score of one or higher in motion was 75.2% (312/415) with a mean score of 3.81 ± 2.32 .

Pain scores are represented by box plots, split out in a group with acceptable pain and a group with unacceptable pain (Figure 2). The mean pain score at rest in the unacceptable pain group is 4.45 ± 2.56 , while the mean in the acceptable pain group is 1.71 ± 1.75 . In motion, these means are 6.09 ± 2.07 and 2.67 ± 1.56 , respectively. The acceptable pain group contains outliers, both at rest and in motion. In the group with unacceptable pain, both pain scores were significantly different than those in the acceptable pain group. The mean difference (MD) of the pain scores at rest was 2.74 [95% confidence interval (CI): 2.19 to 3.30; $P < 0.001$], while in motion it was 3.43 [95%CI: 2.97 to 3.88; $P < 0.001$].

Table 2 shows the mean pain scores and the number and proportion of opioid users per different surgery types.

When the mean pain scores within the group of painkiller users are compared between opioid users and non-opioid users, a statistically significant difference is found, both at rest [MD: -1.77; 95%CI: -2.62 to -0.92; $P < 0.001$] and in motion [MD: -1.27; 95%CI: -2.14 to -0.39; $P = 0.005$]. Figure 3 shows how these scores are spread.

TABLE 1. Characteristics of study subjects and eligible subjects

Characteristic	Study subjects (n = 415)	Eligible subjects (n = 889)
Gender, n (%)		
Male	152 (36.6)	336 (37.8)
Female	263 (63.4)	553 (62.2)
Age (years) ^a	60.7 ± 13.4	58.2 ± 15.5
Surgery time (minutes) ^a	111.6 ± 52.5	105.1 ± 52.5
Type of surgery, n (%)		
Back/Neck	41 (9.9)	83 (9.3)
Foot/Ankle	110 (26.5)	212 (23.8)
Hip	87 (21.0)	175 (19.7)
Knee	100 (24.1)	239 (26.9)
Upper extremity (arm, wrist, hand, shoulder)	77 (18.6)	180 (20.2)

^a. Values are means ± SD.

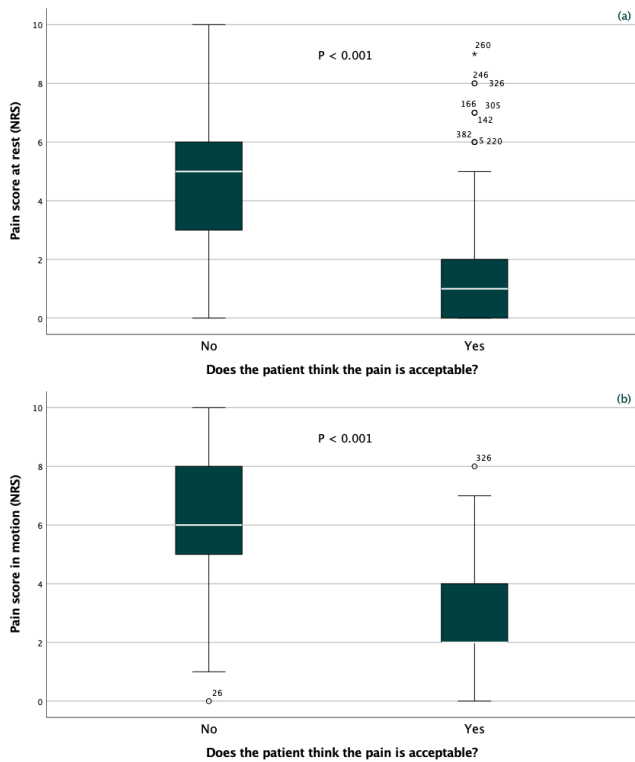


FIGURE 2. Distribution of the NRS pain scores *at rest* (a) and *in motion* (b) in the acceptable pain group and unacceptable pain group. The box plots show medians (white horizontal bar), interquartile ranges (25-75%), whiskers, and outliers.

The calculated morphine equivalents per 24 hours of opioid users range from 2.86 mg to 150.00 mg. Figure 4 shows this distribution. For a full table of calculated equivalents and how often these occurred, see Appendix C.

DISCUSSION

In this study we found that 11.6% of patients used at least one opioid six months after orthopedic surgery. A striking amount of these opioid users, 41 out of 48, indicated that they are willing to reduce or even stop their opioid use. This implies that many patients are dissatisfied with their opioid use, and the fact that 50.0% of them want professional help to accomplish this reduction further supports this hypothesis.

A prevalence of 11.6% for persistent opioid use does not seem remarkably high, but since thousands of patients undergo orthopedic surgery yearly, this adds up to many patients. Since no preoperative data on opioid use are known for these patients, it is not possible to calculate the impact of the surgery on the incidence of persistent opioid use. A previous study did show an increased risk of chronic opioid use for opioid-naïve patients in the year after surgery.¹⁵ The question that arises is whether our study group was using more opioids six months after surgery, in number of users as well as in cumulative dose. However, this can currently not be discussed because preoperative data are not available yet.

It was totally unexpected that such a large proportion of opioid users would like to reduce or stop taking opioids. If we look at the average pain scores at rest (4.27 ± 2.71) and during movement (4.92 ± 2.84) in the group of opioid users, this large proportion with a desire to reduce or stop does not seem entirely surprising, since their pain scores are not extremely high. Van Dijk et al.¹⁶ previously described a relation between NRS pain scores and the desire for opioid use. In their study the majority with an NRS score < 8 one day after surgery had no active desire for opioid treatment. In the same study, from the patients who had an NRS score of 5, nearly 85% had no active desire for opioid use. However, a different ques-

TABLE 2. Pain score means and number of opioid users for different surgery types

Type of surgery	Pain score at rest (NRS)	Pain score in motion (NRS)	Opioid users (n (%))
Back/Neck	2.46 ± 2.71	2.90 ± 2.90	10 (24.4)
Foot/Ankle	1.96 ± 2.12	3.04 ± 2.56	10 (9.1)
Hip	1.10 ± 2.15	1.72 ± 2.33	2 (2.3)
Knee	2.36 ± 2.51	3.31 ± 2.63	17 (17.0)
Upper extremity	2.18 ± 2.34	3.32 ± 2.41	9 (11.7)

Pain scores are means \pm SD.

tion was asked than we did; in the study of Van Dijk et al. patients were asked whether they wanted to start or increase opioid use, while in our study we asked whether they wished to reduce or stop. Still, between an NRS of 7 and 8 there seems to be a breaking point for patients to wish for adaption of their medication.

Another interesting finding is that of all opioid users, only two patients have had hip surgery. When evaluating the average pain scores per surgery type, patients who had hip surgery report significantly less pain than those who have had orthopedic surgery on another body part. Similar to our results, Salmon et al.¹⁷ found that patients reported significantly lower pain scores six months after total hip replacement surgery than after knee replacement surgery. These low pain scores may very well explain the fact that out of 87 hip surgery patients, only 2.3% used opioids.

To our knowledge, this is the first study in the Netherlands to assess long-term opioid use after orthopedic surgery. We meticulously report the type of painkillers, doses, and frequencies used by the patients and can compare this with the patients' reports on their pain. Since we did not ask questions about the reason of opioid use, it is unknown what the patients' reason for long-term opioid use are. Possibly some patients take opioids for other reasons

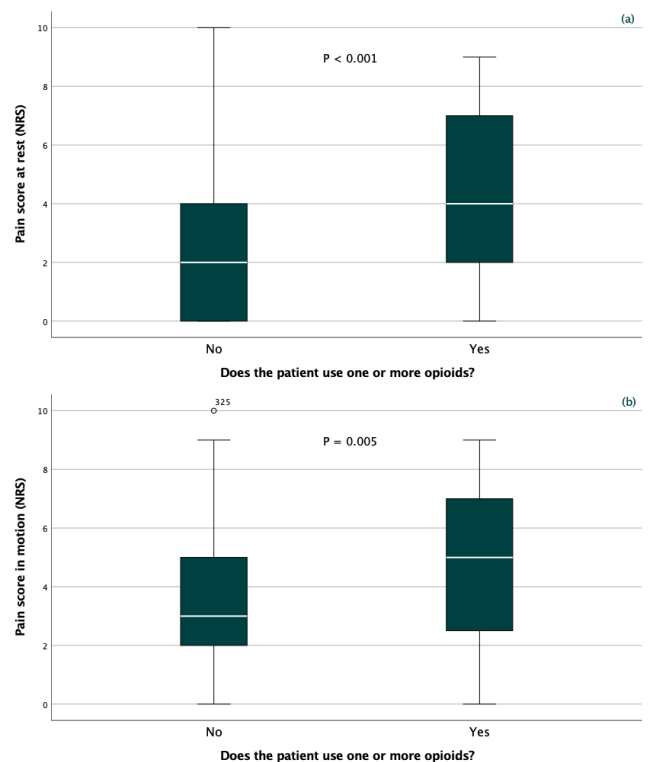


FIGURE 3. Distribution of NRS pain scores *at rest* (a) and *in motion* (b) in painkiller users who do not use opioids and who do use opioids.

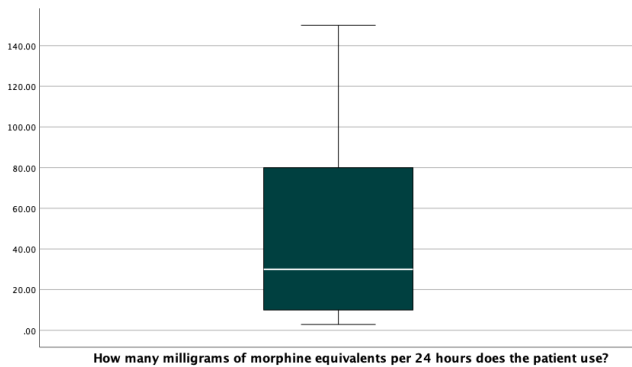


FIGURE 4. Distribution of calculated morphine equivalents per 24 hours of opioid users.

than persistent postsurgical pain, e.g., pain in another body part or non-pain related reasons.

In addition, we gave patients the opportunity to indicate whether they wanted to reduce or stop their painkiller use and a large amount of the patients indicated that they did. However, we did not ask about the reason why and when they wanted to attenuate their opioid use. This information is necessary to assess whether these patients are currently motivated to take part in an opioid cessation treatment program, which would require their active cooperation and commitment.

A large sample size was reached by using large inclusion criteria for this study. The adjusted response rate of 46.7% is relatively low, still more than half of the patients did not respond. This might result in a risk of biases. However, Table 1 shows that the proportions, means, and SDs of the characteristics in the study group are comparable to the group of all eligible patients. Another explanation for the low response rate is the short period of time included.

The lack of preoperative data on opioid use is a limitation of this study. Due to this data shortage, no firm conclusion can be drawn about the incidence of long-term postoperative opioid use, only the prevalence can be reported.

A weakness that should always be addressed in survey research is subjectivity. Pain scores are interpreted differently from person to person and are inherently subjective. One degree of pain may be in a completely different location on the NRS for one patient than for another patient. It should also be noted that the degree of pain experienced by a patient, both physical and emotional, can lead to his or her unresponsiveness to the survey and therefore forms a potential for non-response bias.

The study was neither set up nor designed to help patients taper or stop taking opioids or to offer them guidance in this regard, yet the large number of patients wishing to get professional help urges health care professionals in the Netherlands to undertake action. We did not find any similar research into this subject. Still, the clinical impact is this big that we urge our colleagues to keep addressing the opioid use of their patients and take the patient's wishes into account in any further decision-making about it. Clinicians, GPs, and pharmacists should pay continued attention to patients' wishes to reduce or stop their opioid use, and these patients should be structurally offered more help in this regard. It must be said, opioids are the best painkillers we have, but after a few days of use already a great potential for addiction emerges, patients may even be more sensitive to pain from long-term use, and after a few weeks of opioid use they no longer seem to contribute to pain reduction and may even be counterproductive.¹⁸ Overall, there should be no restraint in prescribing them if opioids are needed, but only for acute pain and for short-term use.

Although long-term prescription of opioids is not wanted, it should be kept in mind that patients still use them for a reason, so when offering guidance with tapering and cessation, patients should be offered alternative pain treatment at the same time.

An incidence of 11.6% postoperative opioid use after orthopedic surgery was found, of which more than 85% wanted to reduce or stop using these analgesics. Half of the opioid using patients wanted professional help with tapering. In our view more attention should be paid to long-term opioid use in the Netherlands and the patient's view on this long-term opioid use. To that end, professionals should actively ask about the long-term opioid use of their patients and the patients' wishes about the opioid use.

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Appendix A

Subject information sheet and consent form for participation in medical research

Long-term postoperative opioid use

Introduction

Dear Sir/Madam,

In the Sint Maartenskliniek we conduct research into pain after an operation. With the following information, we would like to ask you to take part in a medical study. Participation is voluntary. You have received this invitation because you had surgery in the Sint Maartenskliniek six months ago. You can read about the medical study in this information sheet, what it means for you, and what the pros and cons are. It is a lot of information. Can you please read the information and decide if you want to take part?

Ask your questions

You can take your decision based on the information in this information sheet. We also suggest that you do this:

- Put your questions to the investigator who gave you this information.
- Talk to your partner, family or friends about this study.
- Read the information on www.rijksoverheid.nl/mensenonderzoek

General information

The Sint Maartenskliniek has set up this study. Researchers, a pharmacist and your anesthetist conduct the study. This research has been assessed by the nWMO advice committee CMO Arnhem-Nijmegen.

What is the purpose of this study?

Moderate to severe pain after surgery occurs in 40 to 75% of patients. The same goes for orthopedic surgeries. Pain has a major influence on the quality of life, and that is why we want to treat the pain as well as possible. Some patients are more sensitive to pain than others and every patient responds differently to pain treatment. By researching the degree of pain and the painkiller use of our patients, we want to find leads to improve the treatment for our patients.

How will the study proceed?

We ask you to answer some questions about pain and how pain affects your daily life. In addition, we ask you to fill in whether you use pain medication, and which pain medication you use. Finally, data about your operation will be used for the examination (type of surgery, date of surgery, type of anesthesia, and the course of your recovery in hospital). Filling in the questionnaire takes about 5 minutes.

It is up to you to decide if you wish to participate in the study. You do not wish to participate? Then you can indicate this on the next page.

What will be done with your data?

Are you taking part in the study? Then you also give consent to collect, use and store your data.

What data do we store?

We store these data:

- Personal information: your gender and your data of birth
- Information about your surgery: type of surgery, duration of the surgery, medication use on the day before and during the surgery, anesthetic technique
- Your answers to the questionnaire

Why do we collect, use and store your data?

We collect, use and store your data to answer the questions of this study. And to be able to publish the results.

How do we protect your privacy?

To protect your privacy, we give a code to your data. We only put this code on your data. We keep the key to the code in a safe place in the hospital. When we process your data, we always use only that code. Even in reports and publications about the study, nobody will be able to see that it was about you.

Who can see your data?

Some people can see your name and other personal information without a code. These are people checking whether the investigators are carrying out the study properly and reliably. These persons can access your data:

- Members of the committee that keeps an eye on the safety of the study.
- An auditor who works for the researcher.
- National supervisory authorities. For example, the Healthcare and Youth Inspectorate.

These people will keep your information confidential. We ask you to give permission for this access.

For how long do we store your data?

We store your data in the hospital for 15 years.

Can you take back your consent for the use of your data?

You can take back your consent of the use of your data at any time.

Do you want to know more about your privacy?

- Do you want to know more about your rights when processing personal data? Visit www.autoriteitpersoonsgegevens.nl.

- Do you have questions about your rights? Or do you have a complaint about the processing of your personal data? Please contact the person who is responsible for processing your personal data. For the present, these are:
- Eward Melis, pharmacist
- Maaïke Fenten, anesthetist
- In case of complaints: Independent Complaints Committee Sint Maartenskliniek. Phone: 024-3659634
- Data Protection Officer of the Sint Maartenskliniek. Phone: 06-82139369. Available by phone on Monday, Tuesday, Thursday, Friday between 08:00 and 16:30. Mail: privacy@maartenskliniek.nl.

Do you have any questions?

Questions about the study can be put to the research team by sending an email to pijnresearch@maartenskliniek.nl. Do you have a complaint? Discuss it with the investigator or the doctor who is treating you. If you prefer not to do so, please visit the Independent Complaints Committee of the Sint Maartenskliniek.

How do you give consent for the study?

You can first think carefully about this study. Would you like to participate? Then you fill in the consent form on the next page of this digital questionnaire. In it you declare that you understand the information and you decide whether you want to participate. You will also be asked whether the anonymously collected data may be used for further research.

Thank you for your time.

- I have read the information sheet. I had enough time to decide if I wanted to fill in the questionnaire.
- I know that filling in the questionnaire is voluntary. I also know that at any time I can decide not to take part in the study.
- I give the investigators consent to collect and use my data. The investigators only do this to answer the question of this study.
- I know that some people will be able to see all my data to review the study. These people are mentioned in this information sheet. I give consent to let them see my data for this review.

I want to participate in this study, and I give consent to use my data anonymously for scientific research to gain insight into the pain and the postoperative painkiller use.

Yes

No

I give consent to use my anonymously collected data for possible follow-up research.

Yes

No

Appendix B

Full questionnaire

Pain scores

Thank you for your response. You will not receive any further questions. If you click 'next' twice and then 'close', the form will be saved and we will not contact you again for this survey. If you still want to participate in the study, you can click on 'previous' and still give consent. Shown if patient indicated not to participate.

All of the following questions will be shown if patient indicated to participate.

The pain scale: 0 means no pain and 10 is the worst pain imaginable. You can never give a wrong number. After all, it is about the pain you experience, and pain is a personal experience. For example, if you think your pain is a 5, you give a 5, even though you think someone else might give a 3 or a 7 for that pain. If you have no pain, indicate this with a 0.

2.1 What is the pain in the operated area at rest at this moment?

0. No pain 1 2 3 4 5 6 7 8 9 10. Worst pain
imaginable

2.2 What is the pain in the operated area in motion at this moment?

0. No pain 1 2 3 4 5 6 7 8 9 10. Worst pain
imaginable

2.3 Questions 2.3.1. up to 2.3.23 are shown if question 2.1 or 2.2 is equal or greater than 1.

2.3.1 Do you find the pain acceptable?

- Yes
 No

Pain Disability Index (PDI) This will not be shown to the participant.

The questions below are designed to measure the impact of your pain symptoms on your life. A score of 0 means that you do not experience any limitations or hindrance when performing the activity, a score of 10 means that it is impossible to perform the activity.

2.3.3 Family/home responsibilities: This category refers to activities of the home or family. It includes chores or duties performed around the house (e.g., yard work) and errands or favors for other family members (e.g., driving the children to school).

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

2.3.4 Recreation: This category includes hobbies, sports, and other similar leisure time activities.

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

2.3.5 Social activities: This category refers to activities, which involve participation with friends and acquaintances other than family members. It includes parties, theater, concerts, dining out, and other social functions.

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

2.3.6 Occupation: This category refers to activities that are part of or directly related to one's job. This includes non-paying jobs as well, such as that of a housewife or volunteer.

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

2.3.7 Sexual behaviour: This category refers to the frequency and quality of one's sex life.

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

2.3.8 Self care: This category includes activities, which involve personal maintenance and independent daily living (e.g., taking a shower, driving, getting dressed, etc.).

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

2.3.9 Life-support activities: This category refers to basic life supporting behaviors such as eating, sleeping and breathing.

0. No disability 1 2 3 4 5 6 7 8 9 10. Worst disability

Pain Catastrophizing Scale (PCS) This will not be shown to the participant.

Think about your pain and indicate to what extent some thoughts or feelings occur to you. A score of 0 means that the thought does not occur to you at all, a score of 4 means that this thought occurs to you all the time.

When I'm in pain, ...

- 2.3.13 ... I worry all the time about whether the pain will end.**
0. Not at all 1 2 3 4. All the time
- 2.3.14 ... I feel I can't go on.**
0. Not at all 1 2 3 4. All the time
- 2.3.15 ... it's terrible and I think it's never going to get any better.**
0. Not at all 1 2 3 4. All the time
- 2.3.16 ... it's awful and I feel that it overwhelms me.**
0. Not at all 1 2 3 4. All the time
- 2.3.17 ... I feel I can't stand it anymore.**
0. Not at all 1 2 3 4. All the time
- 2.3.18 ... I become afraid that the pain will get worse.**
0. Not at all 1 2 3 4. All the time
- 2.3.19 ... I keep thinking of other painful events.**
0. Not at all 1 2 3 4. All the time
- 2.3.20 ... I anxiously want the pain to go away.**
0. Not at all 1 2 3 4. All the time
- 2.3.21 ... I can't seem to keep it out of my mind.**
0. Not at all 1 2 3 4. All the time
- 2.3.22 ... I keep thinking about how much it hurts.**
0. Not at all 1 2 3 4. All the time
- 2.3.23 ... I keep thinking about how badly I want the pain to stop.**
0. Not at all 1 2 3 4. All the time
- 2.3.24 ... there's nothing I can do to reduce the intensity of the pain.**
0. Not at all 1 2 3 4. All the time
- 2.3.25 ... I wonder whether something serious may happen.**
0. Not at all 1 2 3 4. All the time

Painkillers

If you click 'next' one more time and then 'close', the form will be saved and we will not contact you again for this survey. *Shown if patient indicated not to participate.*

3.1 Are you currently taking one or more painkillers?

- Yes
 No

3.1.1 Which of the painkillers below are you currently taking? *Shown if question 3.1 is equal to 'Yes'.*

- Paracetamol tablet/suppository
- Celecoxib tablet
- Etoricoxib tablet
- Diclofenac (Voltaren) tablet
- Diclofenac + misoprostol (Arthrotec) tablet
- Ibuprofen (Advil / Nurofen) tablet/capsule/sachet
- Naproxen (Aleve) tablet
- Buprenorphine (Butrans / Transtec) skin patch
- Buprenorphine (Temgesic) tablet
- Fentanyl (Abstral) tablet under the tongue
- Fentanyl (Actiq / Effentora) lozenge
- Fentanyl (Durogesic) skin patch
- Fentanyl (Instanyl / Pecfent) nose spray
- Methadone oral solution
- Methadone tablet
- Morphine short-acting tablet
- Morphine long-acting tablet
- Oxycodone short-acting tablet/capsule
- Oxycodone long-acting tablet

- Tapentadol (Palexia) tablet
- Tramadol short-acting tablet/capsule/suppository
- Tramadol long-acting tablet/capsule
- Tramadol/paracetamol (Zaldiar) tablet
- Other, namely ...

3.1.1.1 Other, namely ... *Shown if question 3.1.1 is equal to 'Other, namely ...'*

3.1.1.2 How often do you currently use the drug you entered under 'Other, namely ...'? *Shown if question 3.1.1 is equal to 'Other, namely ...'*

3.1.1.3 What strength of paracetamol tablets/suppositories are you currently taking? *Shown if question 3.1.1 is equal to 'Paracetamol tablet/suppository'.*

- 500 mg
- 1000 mg

3.1.1.3.1 How often do you currently use paracetamol 500 mg? *Shown if question 3.1.1.3 is equal to '500 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.3.2 How often do you currently use paracetamol 1000 mg? *Shown if question 3.1.1.3 is equal to '1000 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.4 What strength of celecoxib tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Celecoxib tablet'.*

- 100 mg
- 200 mg

3.1.1.4.1 How often do you currently use celecoxib 100 mg? *Shown if question 3.1.1.4 is equal to '100 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- More than 1 piece per day

3.1.1.4.2 How often do you currently use celecoxib 200 mg? *Shown if question 3.1.1.4 is equal to '200 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- More than 1 piece per day

3.1.1.5 What strength of etoricoxib tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Etoricoxib tablet'.*

- 30 mg
- 60 mg
- 90 mg
- 120 mg

3.1.1.5.1 How often do you currently use etoricoxib 30 mg? *Shown if question 3.1.1.5 is equal to '30 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week

- 1 piece per day
- More than 1 piece per day

3.1.1.5.2 How often do you currently use etoricoxib 60 mg? *Shown if question 3.1.1.5 is equal to '60 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- More than 1 piece per day

3.1.1.5.3 How often do you currently use etoricoxib 90 mg? *Shown if question 3.1.1.5 is equal to '90 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- More than 1 piece per day

3.1.1.5.4 How often do you currently use etoricoxib 120 mg? *Shown if question 3.1.1.5 is equal to '120 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- More than 1 piece per day

3.1.1.6 What strength of diclofenac (Voltaren) tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Diclofenac (Voltaren) tablet'.*

- 12.5 mg
- 25 mg
- 50 mg
- 75 mg
- 100 mg

3.1.1.6.1 How often do you currently use diclofenac (Voltaren) 12.5 mg? *Shown if question 3.1.1.6 is equal to '12.5 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.6.2 How often do you currently use diclofenac (Voltaren) 25 mg? *Shown if question 3.1.1.6 is equal to '25 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.6.3 How often do you currently use diclofenac 50 mg? *Shown if question 3.1.1.6 is equal to '50 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.6.4 How often do you currently use diclofenac 75 mg? *Shown if question 3.1.1.6 is equal to '75 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day

- 2 pieces per day
- More than 2 pieces per day

3.1.1.6.5 How often do you currently use diclofenac 100 mg? *Shown if question 3.1.1.6 is equal to '100 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.7 What strength of diclofenac + misoprostol (Arthrotec) tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Diclofenac + misoprostol (Arthrotec) tablet'.*

- 50 mg
- 75 mg

3.1.1.7.1 How often do you currently use diclofenac + misoprostol (Arthrotec) 50 mg? *Shown if question 3.1.1.7 is equal to '50 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.7.2 How often do you currently use diclofenac + misoprostol (Arthrotec) 75 mg? *Shown if question 3.1.1.7 is equal to '75 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.8 What strength of ibuprofen (Advil / Nurofen) tablets/capsules/sachets are you currently taking? *Shown if question 3.1.1 is equal to 'Ibuprofen (Advil / Nurofen) tablet/capsule/sachet'.*

- 200 mg
- 400 mg
- 600 mg
- 800 mg

3.1.1.8.1 How often do you currently use ibuprofen (Advil / Nurofen) 200 mg? *Shown if question 3.1.1.8 is equal to '200 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.8.2 How often do you currently use ibuprofen (Advil / Nurofen) 400 mg? *Shown if question 3.1.1.8 is equal to '400 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.8.3 How often do you currently use ibuprofen 600 mg? *Shown if question 3.1.1.8 is equal to '600 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day

- 4 pieces per day
- More than 4 pieces per day

3.1.1.8.4 How often do you currently use ibuprofen 800 mg? *Shown if question 3.1.1.8 is equal to '800 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.9 What strength of naproxen (Aleve) tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Naproxen (Aleve) tablet'.*

- 220 mg (Aleve Classic)
- 250 mg
- 500 mg
- 550 mg (Aleve Intense)

3.1.1.9.1 How often do you currently use naproxen 220 mg (Aleve Classic)? *Shown if question 3.1.1.9 is equal to '220 mg (Aleve Classic)'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.9.2 How often do you currently use naproxen 250 mg? *Shown if question 3.1.1.9 is equal to '250 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.9.3 How often do you currently use naproxen 500 mg? *Shown if question 3.1.1.9 is equal to '500 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.9.4 How often do you currently use naproxen 550 mg (Aleve Intense)? *Shown if question 3.1.1.9 is equal to '550 mg (Aleve Intense)'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.10 What strength of buprenorphine (Butrans / Transtec) skin patches are you currently using? *Shown if question 3.1.1 is equal to 'Buprenorphine (Butrans / Transtec) skin patch'.*

- 5 µg/hour
- 10 µg/hour
- 15 µg/hour
- 20 µg/hour
- 35 µg/hour
- 52.5 µg/hour
- 70 µg/hour

3.1.1.10.1 How many patches of buprenorphine 5 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '5 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time

- 1.5 patches at a time
- 2 patches at a time

3.1.1.10.2 How many patches of buprenorphine 10 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '10 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.10.3 How many patches of buprenorphine 15 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '15 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.10.4 How many patches of buprenorphine 20 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '20 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.10.5 How many patches of buprenorphine 35 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '35 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.10.6 How many patches of buprenorphine 52.5 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '52.5 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.10.7 How many patches of buprenorphine 70 µg/hour (Butrans / Transtec) do you put on your body at a time? *Shown if question 3.1.1.10 is equal to '70 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.11 How often do you currently use buprenorphine 0,2 mg (Temgesic)? *Shown if question 3.1.1 is equal to 'Buprenorphine (Temgesic) tablet'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.12 What strength of fentanyl (Abstral) tablets under the tongue are you currently taking? *Shown if question 3.1.1 is equal to 'Fentanyl (Abstral) tablet under the tongue'.*

- 100 µg
- 200 µg
- 300 µg
- 400 µg

- 600 μg
- 800 μg

3.1.1.12.1 How often do you currently use fentanyl (Abstral) 100 μg ? *Shown if question 3.1.1.12 is equal to '100 μg '.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.12.2 How often do you currently use fentanyl (Abstral) 200 μg ? *Shown if question 3.1.1.12 is equal to '200 μg '.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.12.3 How often do you currently use fentanyl (Abstral) 300 μg ? *Shown if question 3.1.1.12 is equal to '300 μg '.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.12.4 How often do you currently use fentanyl (Abstral) 400 μg ? *Shown if question 3.1.1.12 is equal to '400 μg '.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.12.5 How often do you currently use fentanyl (Abstral) 600 μg ? *Shown if question 3.1.1.12 is equal to '600 μg '.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.12.6 How often do you currently use fentanyl (Abstral) 800 μg ? *Shown if question 3.1.1.12 is equal to '800 μg '.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.13 What strength of fentanyl (Actiq / Effentora) lozenges are you currently taking? *Shown if question 3.1.1 is equal to 'Fentanyl (Actiq / Effentora) lozenge'.*

- 100 μg
- 200 μg
- 400 μg
- 600 μg
- 800 μg

3.1.1.13.1 How often do you currently use fentanyl (Actiq / Effentora) 100 µg? *Shown if question 3.1.1.13 is equal to '100 µg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.13.2 How often do you currently use fentanyl (Actiq / Effentora) 200 µg? *Shown if question 3.1.1.13 is equal to '200 µg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.13.3 How often do you currently use fentanyl (Actiq / Effentora) 400 µg? *Shown if question 3.1.1.13 is equal to '400 µg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.13.4 How often do you currently use fentanyl (Actiq / Effentora) 600 µg? *Shown if question 3.1.1.13 is equal to '600 µg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.13.5 How often do you currently use fentanyl (Actiq / Effentora) 800 µg? *Shown if question 3.1.1.13 is equal to '800 µg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.14 What strength of fentanyl (Durogesic) skin patches are you currently using? *Shown if question 3.1.1 is equal to 'Fentanyl (Durogesic) skin patch'.*

- 12 µg/hour
- 25 µg/hour
- 37 µg/hour
- 50 µg/hour
- 75 µg/hour
- 100 µg/hour

3.1.1.14.1 How many patches of fentanyl 12 µg/hour (Durogesic) do you put on your body at a time? *Shown if question 3.1.1.14 is equal to '12 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time
- 1.5 patches at a time
- 2 patches at a time

3.1.1.14.2 How many patches of fentanyl 25 µg/hour (Durogesic) do you put on your body at a time? *Shown if question 3.1.1.14 is equal to '25 µg/hour'.*

- 0.5 patches at a time
- 1 patch at a time

- O 1.5 patches at a time
- O 2 patches at a time

3.1.1.14.3 How many patches of fentanyl 37 µg/hour (Durogesic) do you put on your body at a time? *Shown if question 3.1.1.14 is equal to '37 µg/hour'.*

- O 0.5 patches at a time
- O 1 patch at a time
- O 1.5 patches at a time
- O 2 patches at a time

3.1.1.14.4 How many patches of fentanyl 50 µg/hour (Durogesic) do you put on your body at a time? *Shown if question 3.1.1.14 is equal to '50 µg/hour'.*

- O 0.5 patches at a time
- O 1 patch at a time
- O 1.5 patches at a time
- O 2 patches at a time

3.1.1.14.5 How many patches of fentanyl 75 µg/hour (Durogesic) do you put on your body at a time? *Shown if question 3.1.1.14 is equal to '75 µg/hour'.*

- O 0.5 patches at a time
- O 1 patch at a time
- O 1.5 patches at a time
- O 2 patches at a time

3.1.1.14.6 How many patches of fentanyl 100 µg/hour (Durogesic) do you put on your body at a time? *Shown if question 3.1.1.14 is equal to '100 µg/hour'.*

- O 0.5 patches at a time
- O 1 patch at a time
- O 1.5 patches at a time
- O 2 patches at a time

3.1.1.15 What strength of fentanyl (Instanyl / Pecfent) nose spray are you currently using? *Shown if question 3.1.1 is equal to 'Fentanyl (Instanyl / Pecfent) nose spray'.*

- 50 µg
- 100 µg
- 200 µg
- 400 µg

3.1.1.15.1 How often do you currently use fentanyl (Instanyl / Pecfent) 50 µg nose spray? *Shown if question 3.1.1.15 is equal to '50 µg'.*

- O Less than 2 sprays per week
- O 2-6 sprays per week
- O 1 spray per day
- O 2 sprays per day
- O 3 sprays per day
- O 4 sprays per day
- O More than 4 sprays per day

3.1.1.15.2 How often do you currently use fentanyl (Instanyl / Pecfent) 100 µg nose spray? *Shown if question 3.1.1.15 is equal to '100 µg'.*

- O Less than 2 sprays per week
- O 2-6 sprays per week
- O 1 spray per day
- O 2 sprays per day
- O 3 sprays per day
- O 4 sprays per day
- O More than 4 sprays per day

3.1.1.15.3 How often do you currently use fentanyl (Instanyl / Pecfent) 200 µg nose spray? *Shown if question 3.1.1.15 is equal to '200 µg'.*

- O Less than 2 sprays per week
- O 2-6 sprays per week
- O 1 spray per day
- O 2 sprays per day
- O 3 sprays per day

- 4 sprays per day
- More than 4 sprays per day

3.1.1.15.4 How often do you currently use fentanyl (Instanyl / Pecfent) 400 µg nose spray? *Shown if question 3.1.1.15 is equal to '400 µg'.*

- Less than 2 sprays per week
- 2-6 sprays per week
- 1 spray per day
- 2 sprays per day
- 3 sprays per day
- 4 sprays per day
- More than 4 sprays per day

3.1.1.16 How many ml of methadone oral solution do you drink per day? *Shown if question 3.1.1 is equal to 'Methadone oral solution'.*
_____ ml

3.1.1.17 What strength of methadone tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Methadone tablet'.*

- 5 mg
- 10 mg
- 20 mg
- 40 mg
- 50 mg

3.1.1.17.1 How often do you currently use methadone 5 mg? *Shown if question 3.1.1.17 is equal to '5 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.17.2 How often do you currently use methadone 10 mg? *Shown if question 3.1.1.17 is equal to '10 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.17.3 How often do you currently use methadone 20 mg? *Shown if question 3.1.1.17 is equal to '20 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.17.4 How often do you currently use methadone 40 mg? *Shown if question 3.1.1.17 is equal to '40 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week

- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.17.5 How often do you currently use methadone 50 mg? *Shown if question 3.1.1.17 is equal to '50 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.18 What strength of short-acting morphine tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Morphine short-acting tablet'.*

- 10 mg
- 20 mg

3.1.1.18.1 How often do you currently use short-acting morphine 10 mg? *Shown if question 3.1.1.18 is equal to '10 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.18.2 How often do you currently use short-acting morphine 20 mg? *Shown if question 3.1.1.18 is equal to '20 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.19 What strength of long-acting morphine tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Morphine long-acting tablet'.*

- 10 mg
- 15 mg
- 30 mg
- 60 mg
- 100 mg

3.1.1.19.1 How often do you currently use long-acting morphine 10 mg? *Shown if question 3.1.1.19 is equal to '10 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.19.2 How often do you currently use long-acting morphine 15 mg? *Shown if question 3.1.1.19 is equal to '15 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.19.3 How often do you currently use long-acting morphine 30 mg? *Shown if question 3.1.1.19 is equal to '30 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.19.4 How often do you currently use long-acting morphine 60 mg? *Shown if question 3.1.1.19 is equal to '60 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.19.5 How often do you currently use long-acting morphine 100 mg? *Shown if question 3.1.1.19 is equal to '100 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.20 What strength of short-acting oxycodone tablets/capsules are you currently taking? *Shown if question 3.1.1 is equal to 'Oxycodone short-acting tablet/capsule'.*

- 5 mg
- 10 mg
- 20 mg

3.1.1.20.1 How often do you currently use short-acting oxycodone 5 mg? *Shown if question 3.1.1.20 is equal to '5 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.20.2 How often do you currently use short-acting oxycodone 10 mg? *Shown if question 3.1.1.20 is equal to '10 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.20.3 How often do you currently use short-acting oxycodone 20 mg? *Shown if question 3.1.1.20 is equal to '20 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21 What strength of long-acting oxycodone tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Oxycodone long-acting tablet'.*

- 5 mg
- 10 mg
- 15 mg
- 20 mg
- 30 mg
- 40 mg
- 60 mg
- 80 mg
- 120 mg

3.1.1.21.1 How often do you currently use long-acting oxycodone 5 mg? *Shown if question 3.1.1.21 is equal to '5 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21.2 How often do you currently use long-acting oxycodone 10 mg? *Shown if question 3.1.1.21 is equal to '10 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21.3 How often do you currently use long-acting oxycodone 15 mg? *Shown if question 3.1.1.21 is equal to '15 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21.4 How often do you currently use long-acting oxycodone 20 mg? *Shown if question 3.1.1.21 is equal to '20 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21.5 How often do you currently use long-acting oxycodone 30 mg? *Shown if question 3.1.1.21 is equal to '30 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21.6 How often do you currently use long-acting oxycodone 40 mg? *Shown if question 3.1.1.21 is equal to '40 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.21.7 How often do you currently use long-acting oxycodone 60 mg? *Shown if question 3.1.1.21 is equal to '60 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.21.8 How often do you currently use long-acting oxycodone 80 mg? *Shown if question 3.1.1.21 is equal to '80 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.21.9 How often do you currently use long-acting oxycodone 120 mg? *Shown if question 3.1.1.21 is equal to '120 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.22 What strength of tapentadol (Palexia) tablets are you currently taking? *Shown if question 3.1.1 is equal to 'Tapentadol (Palexia) tablet'.*

- 50 mg
- 100 mg
- 150 mg
- 200 mg

3.1.1.22.1 How often do you currently use tapentadol (Palexia) 50 mg? *Shown if question 3.1.1.22 is equal to '50 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.22.2 How often do you currently use tapentadol (Palexia) 100 mg? *Shown if question 3.1.1.22 is equal to '100 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- More than 6 pieces per day

3.1.1.22.3 How often do you currently use tapentadol (Palexia) 150 mg? *Shown if question 3.1.1.22 is equal to '150 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.22.4 How often do you currently use tapentadol (Palexia) 200 mg? *Shown if question 3.1.1.22 is equal to '200 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.23 How often do you currently use short-acting tramadol 50 mg? *Shown if question 3.1.1 is equal to 'Tramadol short-acting tablet/capsule/suppository'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.24 What strength of long-acting tramadol tablets/capsules are you currently taking? *Shown if question 3.1.1 is equal to 'Tramadol long-acting tablet/capsule'.*

- 50 mg
- 100 mg
- 150 mg
- 200 mg
- 300 mg

3.1.1.24.1 How often do you currently use long-acting tramadol 50 mg? *Shown if question 3.1.1.24 is equal to '50 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.1.1.24.2 How often do you currently use long-acting tramadol 100 mg? *Shown if question 3.1.1.24 is equal to '100 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.24.3 How often do you currently use long-acting tramadol 150 mg? *Shown if question 3.1.1.24 is equal to '150 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- More than 4 pieces per day

3.1.1.24.4 How often do you currently use long-acting tramadol 200 mg? *Shown if question 3.1.1.24 is equal to '200 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.24.5 How often do you currently use long-acting tramadol 300 mg? *Shown if question 3.1.1.24 is equal to '300 mg'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- More than 2 pieces per day

3.1.1.25 How often do you currently use tramadol/paracetamol 37.5 mg/325 mg (Zaldiar)? *Shown if question 3.1.1 is equal to 'Tramadol/paracetamol (Zaldiar) tablet'.*

- Less than 2 pieces per week
- 2-6 pieces per week
- 1 piece per day
- 2 pieces per day
- 3 pieces per day
- 4 pieces per day
- 5 pieces per day
- 6 pieces per day
- 7 pieces per day
- 8 pieces per day
- More than 8 pieces per day

3.2.1 You indicate that you are taking one or more opioids. Opioids are strong painkillers. What is the reason you are taking one or more opioids? *Shown if at question 3.1.1 one or more opioids are checked.*

—

3.2.2 Would you like to use less painkillers or even stop the use of painkillers? *Shown if at question 3.1.1 one or more opioids are checked.*

Yes

No

3.2.2.1 Would you like professional guidance in reducing or stopping the use of painkillers? *Shown if question 3.2.2 is equal to 'Yes'.*

Yes

No

Thank you very much for completing the questionnaire. You may save the form at the bottom right corner by clicking 'close'.

Yours sincerely,

Sint Maartenskliniek

If you have any questions or comments, please send us an e-mail at: pijnresearch@maartenskliniek.nl

Appendix C

Frequency of calculated morphine equivalents per 24 hours of opioid users

Morphine equivalents (mg per 24 hours)	N (%)
2.86	3 (6.3)
4.29	4 (8.3)
5.71	3 (6.3)
8.58	1 (2.1)
10.00	2 (4.2)
11.43	1 (2.1)
15.00	2 (4.2)
20.00	3 (6.3)
25.71	1 (2.1)
30.00	6 (12.5)
40.00	4 (8.3)
45.00	1 (2.1)
45.71	1 (2.1)
60.00	1 (2.1)
62.86	1 (2.1)
80.00	3 (6.3)
90.00	1 (2.1)
110.00	2 (4.2)
124.29	1 (2.1)
127.50	1 (2.1)
130.00	1 (2.1)
135.00	1 (2.1)
148.80	1 (2.1)
150.00	3 (6.3)