Appendix 1. Methods of measurements

Morphine consumption in the first 24 hours postoperatively

The total amount of morphine (mg) delivered in the period 0-24 hours will be recorded. This includes PCA-morphine (IV), oral on-demand morphine, morphine administered at the post anaesthesia care unit and any other opioid administrated. Oral morphine and any other administrated opioids will be converted to IV-morphine equivalents according to table 1 (from supporting information "S2 Appendix" in Karlsen et. al).[1]

Table 1. Opioid conversion table used to equate equivalent IV morphine values[1]

1 mg morphine oral	0.33 mg morphine IV
1 mg fentanyl IV	100 mg morphine IV
1 mg oxycodone IV	1.33 mg morphine IV
1 mg oxycodone oral	0.5 mg morphine IV
1 mg tramadol oral	0.07 mg morphine IV
1 mg ketomebidone IV	1 mg morphine IV
1 mg ketomebidone oral	0.67 mg morphine IV
1 mg sufentanil IV	1000 mg morphine IV
1 mg hydromorphone IV	6.67 mg morphine IV
1 mg meperidine IV	0.13 mg morphine IV

Pain

Participant's pain is registered on a VAS of 100 mm, where 0 = no pain and 100 = worst imaginable pain. Participants state their own pain intensity.

Pain is recorded at rest and during 30 degrees active flexion of the hip at 6 and 24 hours postoperatively, corresponding to the end of the intervention period.

Maximum level of pain (VAS) is recorded during walk of 5 meters at 24 hours postoperatively. The participant may use crutches or walking frame at discretion. If the participant is unable to complete the task due to pain, a pain score of 100 will be assigned. If the participant is unable to complete the task due to any other reason than pain, this particular reason will be specified.

For the minor amount of participants discharged on the day of surgery, 24h follow-up will be conducted by phone. For these participants we will use a numeric rating scale (NRS) for pain assessment and convert it to VAS by multiplying by 10.

Adverse events

Incidence of nausea will be recorded at 6 and 24 hours postoperatively.

The number of productive vomiting events (volume estimated over 10 ml) is recorded corresponding to the period 0-24 hours postoperatively by interview with the participant.

The participant's use of ondansetron (mg) and eventually DHBP (mg) 0-24 hours postoperatively is recorded.

Incidence of dizziness will be assessed at the 5 meter walk at 24 hours postoperatively.

Participant reported adverse events are recorded.

Perioperative blood loss

Recorded in the electronic anaesthesia chart.

Quality of sleep

The quality of sleep is recorded by VAS (0 mm = worst possible sleep; 100 mm = best possible sleep). Participants state their own quality of sleep, and there will be check boxes to explain the reasons for the quality of sleep; pain, nausea, unrest, disturbance from outside, or other reason.

Follow-up

90-day mortality rate is recorded from the Civil Registration System, 'CPR-registeret'. SAEs are recorded from the Danish National Patient Registry, 'Landspatientregistreret'. Serious adverse events are defined as modified serious adverse events. Modified serious adverse events are defined as serious adverse events, according to the ICH-GCP guidelines excluding 'prolongation of hospitalization', as we recognize that it will be impossible to adjudicate such events.

Permanent use of opioids 90 days after surgery will be retrieved from the Danish National Pharmaceutical Statistic Registry, "Lægemiddelstatistikregisteret".

As part of the 90-day and 1-year follow-up participants will be reached by telephone and an interview will be conducted. Participants will be asked about the need for medical attention and/or intervention, including need for analgesics, antibiotics and/or re-operation after the intervention period. Participants will be enquired to fill in the EQ-5D-5L and Oxford Hip Score questionnaires.

Reference

1 Højer Karlsen AP, Geisler A, Lykke P, *et al.* Postoperative pain treatment after total hip arthroplasty: a systematic review. *Pain* 2015;**156**:8–30. doi:http://dx.doi.org/10.1016/j.pain.0000000000000003