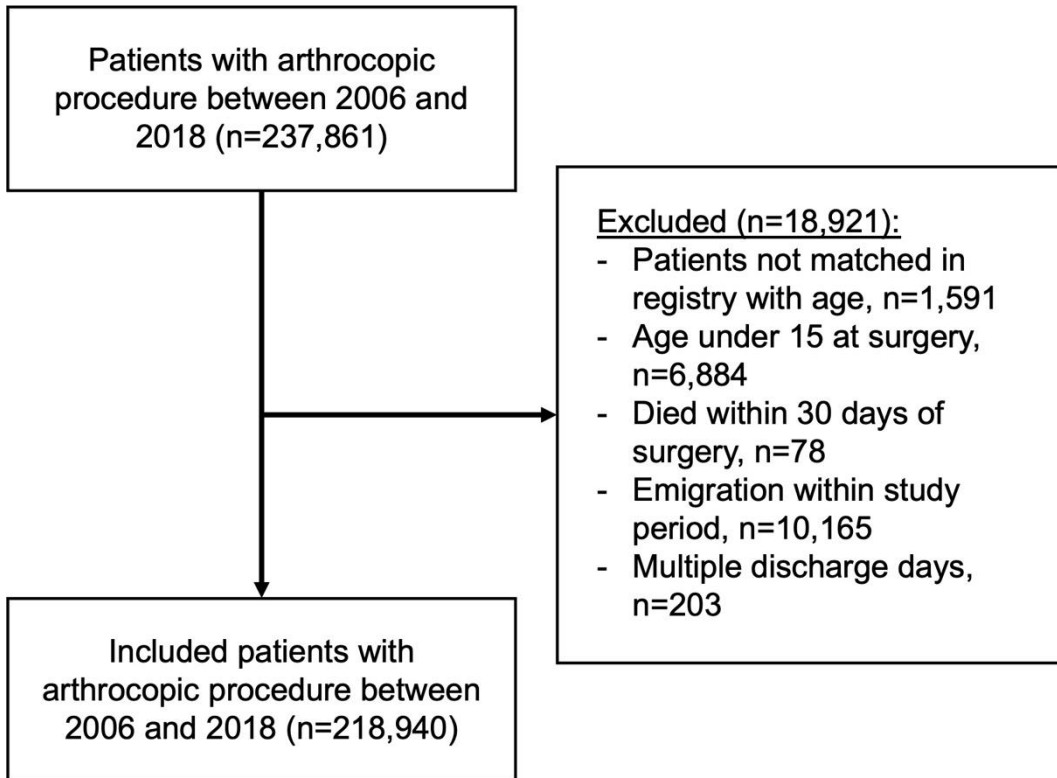


Supplementary material to the paper:

Opioid dispensing in relation to arthroscopic knee surgery in Demark from 2006 to 2018



Supplementary figure 1: Proportion of dispensing (OMEQ) within the first 7 days of discharge stratified by opioid type.



Supplementary figure 2: Flow of study sample generation.

Supplementary table 1: Overview of ATC-codes, mg/DDD, equianalgesic ratios, and mg OMEQ of included opioids.

ATC	Drug	Opioid groups	Adm. Route	Mg/DDD	Equianalgesic ratio	Mg/OMEQ
N02AA01	Morphine	Morphine	Oral	100.0	1.0 ^{1,2}	100.0
N02AA03*	Hydromorphone	Other opioids	Oral	20.0	1.5 ²	30.0
N02AA04	Nicomorphine	Other opioids	Oral	30.0	1.0 ³	30.0
N02AA05	Oxycodone	Oxycodone	Oral	75.0	1.5 ¹	112.5
N02AA55	Oxycodone and naloxone	Oxycodone	Oral	75.0	1.5 ¹	112.5
N02AB01	Ketobemidone	Other opioids	Oral	50.0	1.0 ^{2,4}	50.0
N02AB02	Pethidine	Other opioids	Oral	400.0	0.1 ^{2,3}	40.0
N02AB03	Fentanyl	Other opioids	Trans-dermal	1.2	100.0 ^{2,4}	120.0
N02AC04**	Dextropropoxyphene	Other opioids	Oral	250.0	0.19 ³	47.5
N02AD01***	Pentazocine	Other opioids	Oral	200	0.6 ¹	120.0
N02AE01	Buprenorphine	Other opioids	Trans-dermal	1.2	110.0 ⁴	132
N02AG02	Ketobemidone, antispasmodics	Other opioids	Oral	25.0	2.0 ^{1,2}	50.0
N02AJ06	Codeine, paracetamol	Codeine	Oral	90.0009	0.1 ^{1,2}	9.00009
N02AJ07	Codeine, acetylsalicylic acid	Codeine	Oral	57.5988	0.1 ^{1,2}	5.75988
N02AX02	Tramadol	Tramadol	Oral	300.0	0.2 ^{1,4}	60.0
N02AX06	Tapentadol	Other opioids	Oral	400.0	0.4 ¹	160.0
N02BA75	Codeine, salicylamide, combinations with psycholeptics	Codeine	Oral	57.5988	0.1 ^{1,2}	5.75988
R05DA04	Codeine	Codeine	Oral	100	0.1 ³	100.0

ATC, Anatomical Therapeutic Chemical code

Adm. Route, Route of administration

DDD, Defined Daily Dose (mg/DDD values are identified the WHO Collaborating Centre for Drug Statistics Methodology: https://www.whocc.no/atc_ddd_index/)

OMEQ, Oral Morphine Equivalents (values expressed as number of mg/OMEQ per DDD)

¹ Nielsen et al. 2016 [13]

² Svendsen et al. 2012 [16]

³ Jarlbaek et al. 2005 [15]

⁴ Svendsen et al. 2011[14]

* Jarlbaek et al. Define the equianalgesic ratio as 7.5, Nielsen et al. As 5.0, Svendsen et al. (2011) as 6.0, and Svendsen et al. (2012) as 1.5 and we have chosen to use the ratio from Svendsen et al. (2012).

** An average is being used of 200 mg/DDD and 300 mg/DDD, and 0.15 and 0.23 EQ ratio, respectively due to the lack of data about napsylate versus chloride of each dispensing.

*** Jarlbaek et al. define the equianalgesic ratio as 0.17 and Nielsen et al. define it as 0.6 and we have chosen to use the ratio from Nielsen et al.

Supplementary table 2: Mean age (SD) and sex distribution (no. and %) of patients undergoing arthroscopic knee surgery from 2006-2018 in Denmark.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Patients	19,826	20,222	19,108	22,478	22,067	19,672	18,863	17,600	15,641	13,072	10,665	9,870	9,856	218,940
Age	42 (15)	43 (15)	43 (15)	44 (15)	44 (15)	44 (16)	44 (16)	44 (16)	44 (16)	43 (16)	42 (16)	42 (16)	43 (16)	43 (16)
Sex:														
Men	10,806 (55%)	10,936 (54%)	10,430 (55%)	12,359 (55%)	11,839 (54%)	10,637 (54%)	10,093 (54%)	9,591 (54%)	8,708 (56%)	7,383 (56%)	6,022 (56%)	5,496 (56%)	5,480 (56%)	119,780 (55%)
Women	9,020 (45%)	9,286 (46%)	8,678 (45%)	10,119 (45%)	10,228 (46%)	9,035 (46%)	8,770 (46%)	8,009 (46%)	6,933 (44%)	5,689 (44%)	4,643 (44%)	4,374 (44%)	4,376 (44%)	99,160 (45%)