

**Supplementary Table 1. Morphine milligram equivalent conversion factors**

<b>Opioid</b>	<b>Conversion factor</b>
<b>Oral medication</b>	
Morphine	1
Hydromorphone	5.0
Oxycodone	1.5
Oxycodone + naloxone	1.5
Tramadol	0.2
Tapentadol	0.4
Methadone	4.7
Codeine	0.1
<b>Parenteral medication</b>	
Morphine	3.0
Oxycodone	3.0
Pethidine	0.4
Buprenorphine	75.0
Methadone	13.5
<b>Sublingual medication</b>	
Fentanyl	100.0
Buprenorphine	38.8
<b>Transdermal medication</b>	
Fentanyl	112.5
Buprenorphine	91.7



**Supplementary Table 2. Sensitivity analysis: opioid use 3–12 months after THA by Perceived Stress Scale based on  $\geq 2$  opioid dispensing occasions**

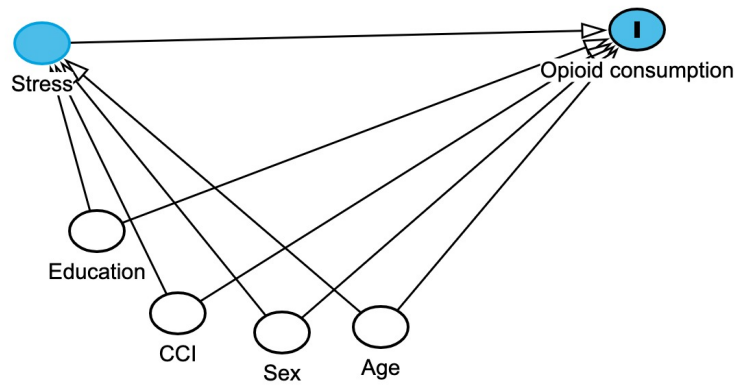
Exposure	Perceived stress scale		
	Low level of stress	High level of stress	Difference
<b>Patients</b>	<b>1,469</b>	<b>258</b>	<b>1,211</b>
<b>Outcome, n (%)</b>	<b>188 (13)</b>	<b>66 (26)</b>	<b>122</b>
<b>Crude RD (CI)</b>	<b>1</b>	<b>12.8 (7.2–18.4)</b>	
<b>aRD (CI)</b>	<b>1</b>	<b>9.8 (4.4–15.3)</b>	
<b>Crude PR (CI)</b>	<b>1</b>	<b>2.0 (1.6–2.6)</b>	
<b>aPR (CI)</b>	<b>1</b>	<b>1.6 (1.3–2.1)</b>	

n: number, CI: 95% confidence interval, RD: prevalence difference, PR: prevalence ratio, aRD and aPR: adjusted for sex, age, comorbidity measured with Charlson Comorbidity Index, and education.

**Supplementary Table 3. Sensitivity analysis: opioid use 3–12 months after THA by Perceived Stress Scale based on  $\geq 2$  opioid dispensing occasions in 2 different quarters**

Exposure	Perceived stress scale		
	Low level of stress	High level of stress	Difference
Patients, n	1,469	258	1,211
Outcome, n (%)	136 (9.3)	53 (21)	83
Crude RD (CI)	1	11.8 (6.1–16.4)	
aRD (CI)	1	8.6 (3.6–13.6)	
Crude PR (CI)	1	2.2 (1.6–3.0)	
aPR (CI)	1	1.9 (1.4–2.5)	

For abbreviations, see Supplementary Table 2



Supplementary Figure 1. Directed acyclic graph (DAG).