

# Codeine in Pediatrics Post-Tonsillectomy and/or Adenoidectomy at Surrey Memorial Hospital – How Much Are We Using?

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## Background

- Tonsillectomy and/or adenoidectomy (T&A) is a common ambulatory surgery performed in children
- Codeine has been used for moderate to severe pain associated with T&A
- Five case reports in children post-T&A who received recommended doses of codeine described serious adverse events including three deaths
- Recommendation from Health Canada, U.S. Food and Drug Administration, and Fraser Health Authority to restrict use of codeine in pediatric patients post-T&A
- Codeine is on the post-T&A pre-printed orders at Surrey Memorial Hospital (SMH)

## Objectives

- Determine the proportion of patients with orders for codeine post-T&A within the hospital and for discharge
- Determine the proportion of patients who actually received a dose of codeine while in hospital
- Identify patient-specific or prescribing factors leading to codeine use
- Determine what other analgesic or combination of analgesics are prescribed at SMH instead of codeine
- Determine the level of pain experienced in hospital for patients who have had a T&A as indicated by pain rating scales

## Methods

- Chart review
- Sample size of convenience
- Inclusion:**
  - Pediatric patients who had a T&A at SMH
  - May 1, 2012 to April 30, 2013
- Exclusion:**
  - Neonates (<45 weeks post-menstrual age)
  - Patients ≥ 17 years
- Statistical analysis using descriptive statistics

## Results

Table 1: Patient characteristics (n=297)

Characteristic	Day surgery (n=139)	Overnight stay (n=158)
Age in years; average (min, max)	9 (3, 16)	6.8 (2.1, 16)
Gender, male (%)	73 (52.5)	101 (63.9)
Weight in kg; average (min, max)	38.8 (12.8, 107.6)	31.7 (12.5, 140.1)
Overweight, documented (%)	4 (2.9)	12 (7.6)
Reason(s) for surgery (%)		
• Obstructive sleep apnea (OSA)	53 (38.1)	148 (93.7)
• Recurrent tonsillitis	76 (54.7)	39 (24.7)
• Other	23 (16.5)	2 (1.3)
Type of surgery (%)		
• Tonsillectomy and adenoidectomy	113 (81.3)	155 (98.1)
• Tonsillectomy only	24 (17.3)	3 (1.9)
• Adenoidectomy only	2 (1.4)	0 (0)
Length of hospital stay after start of surgery in hours; average (min, max)	3.9 (2.2, 12.4)	24.5 (16.7, 97.4)

Figure 1: Post-operative analgesics prescribed and administered on the ward

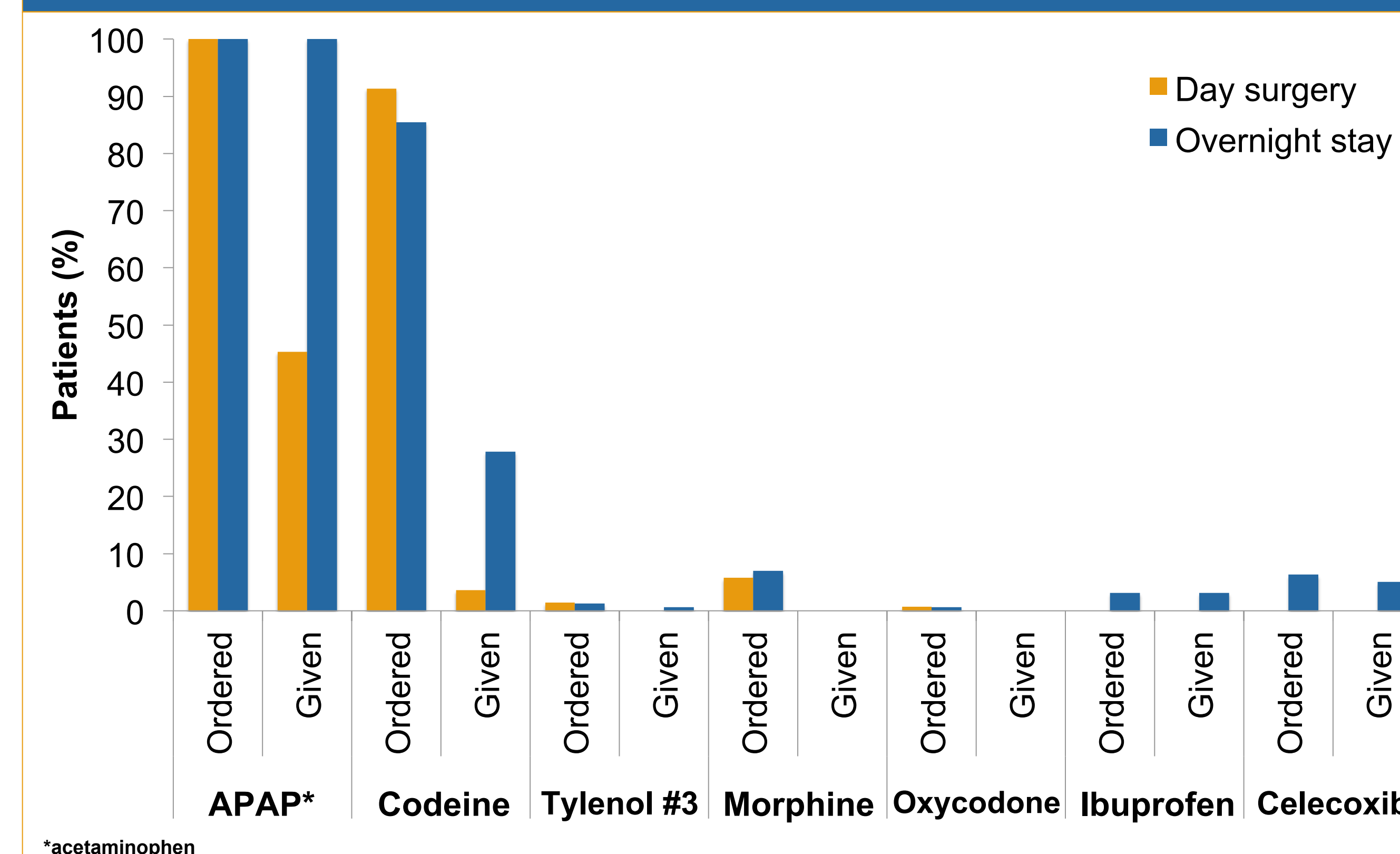


Figure 2: Overall codeine administration rates in hospital

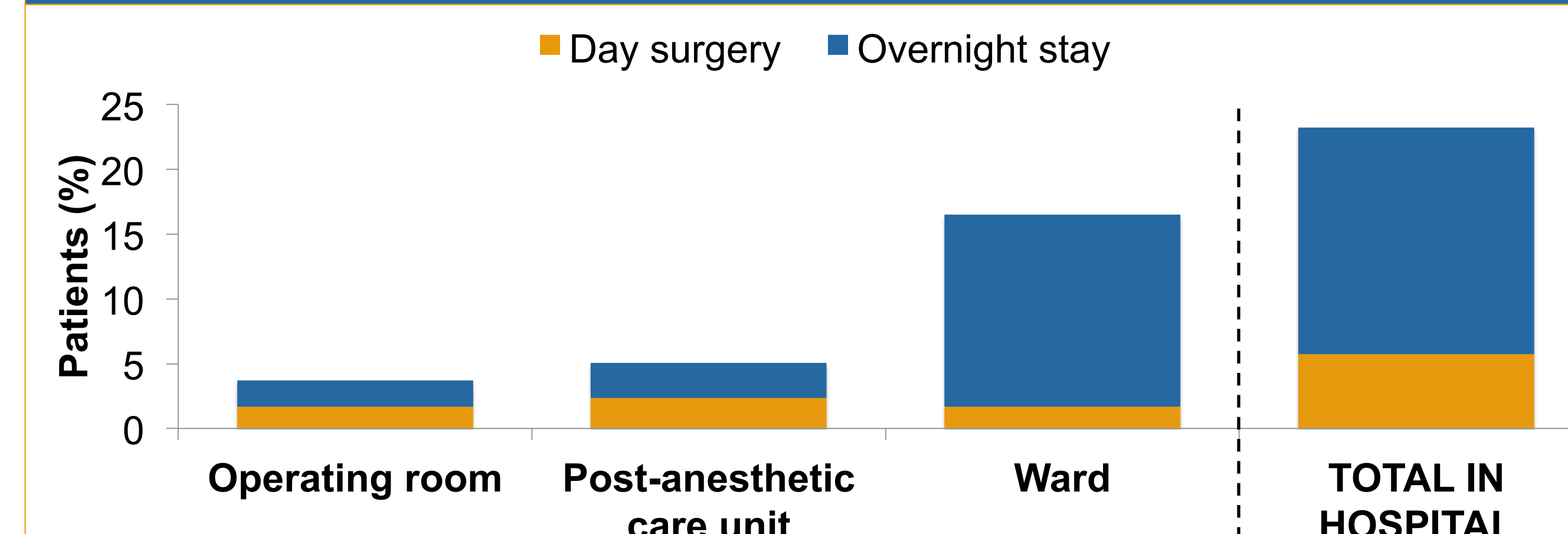


Figure 3: Surgeon prescribing rates for post-operative codeine-containing analgesics

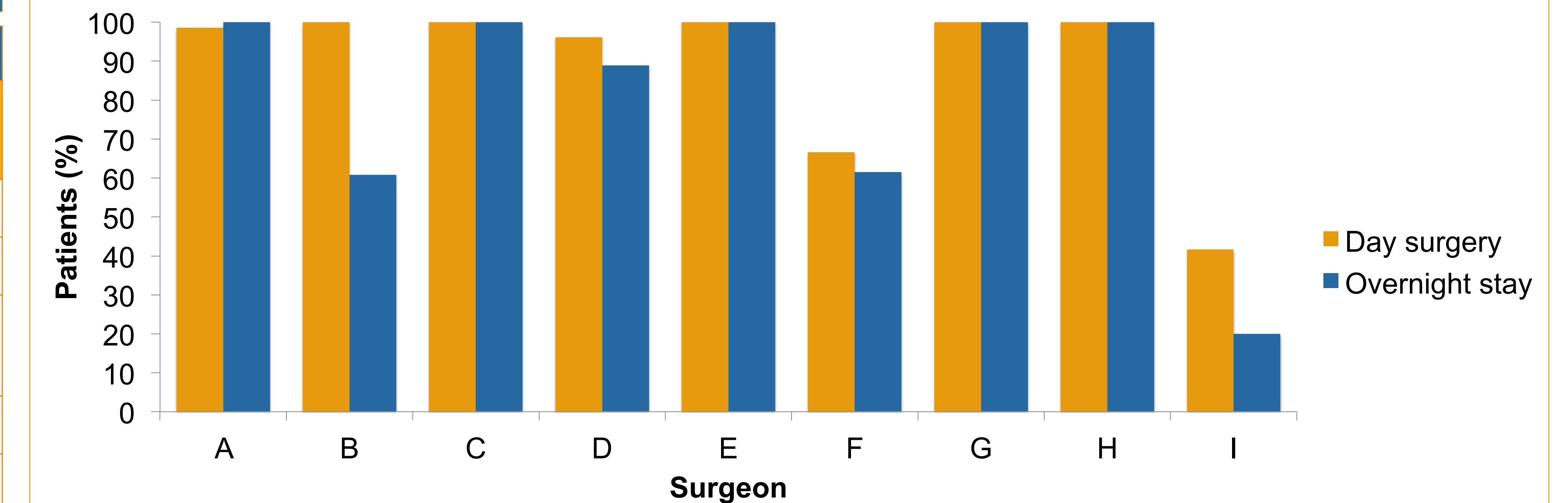


Figure 4: Analgesic regimens ordered for post-operative T&A patients

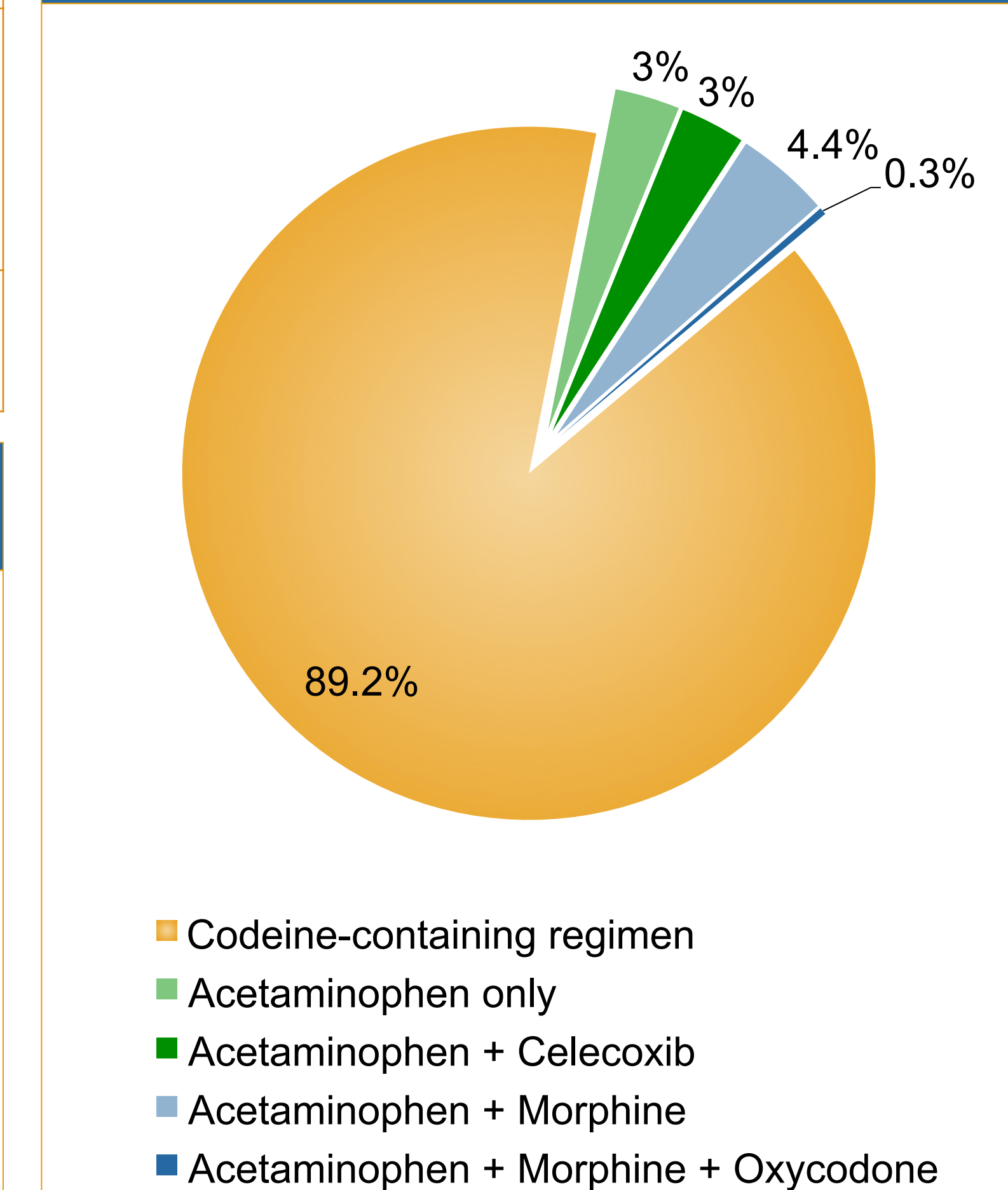
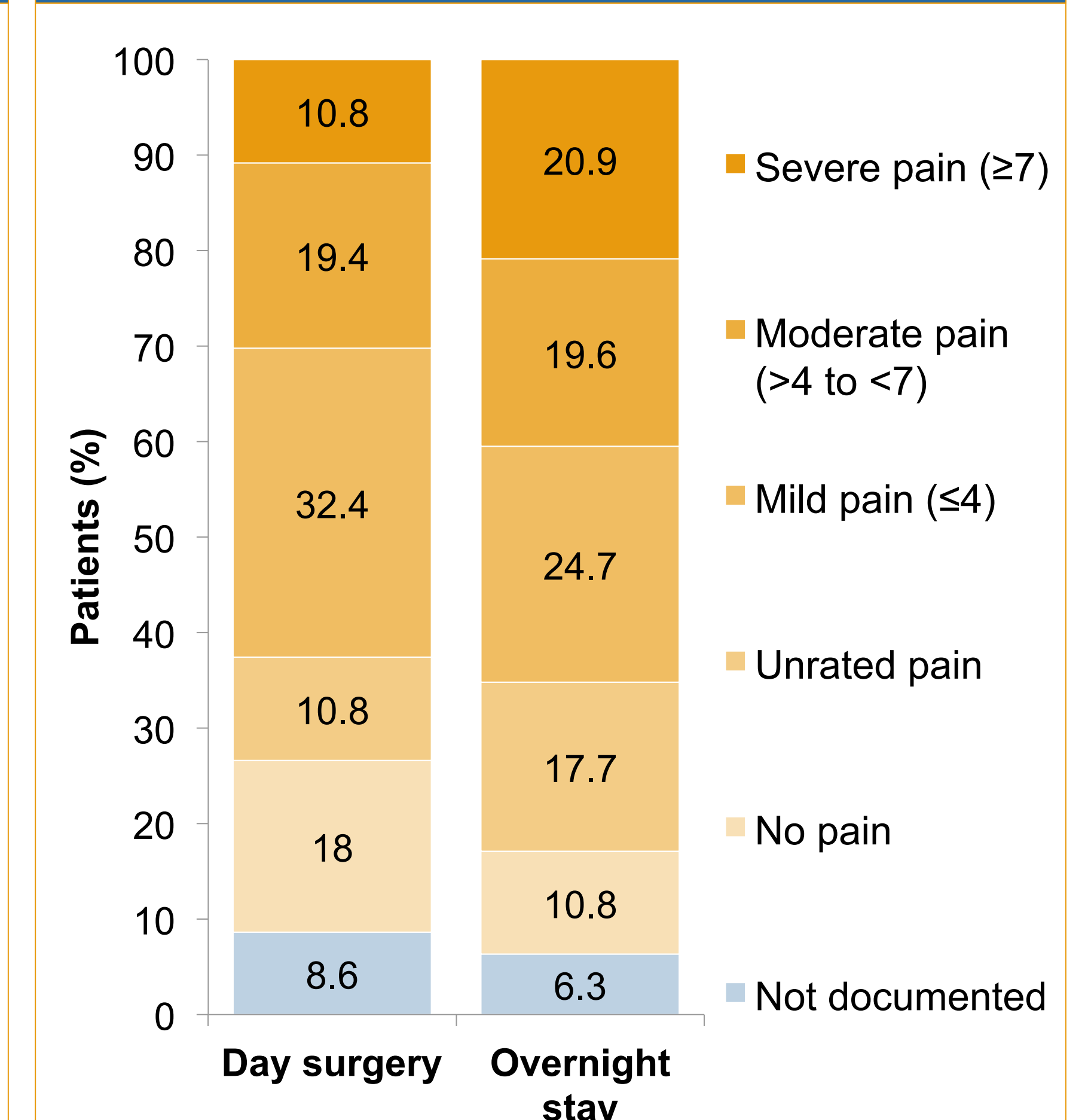


Figure 5: Highest level of pain reported by patients post-operatively in hospital



## Conclusions

- Codeine was prescribed for 89% of patients post-T&A
  - Discharge prescriptions were not routinely documented at SMH
- 23% of patients received a dose of codeine while in hospital
- All surgeons prescribed codeine-containing analgesic regimens
  - Less codeine prescribed for overnight stay patients
  - A few orders stated to limit use of narcotics overnight or because patient has OSA
- No clear patient-specific factors or prescribing factors identified
- Prescribed alternatives included acetaminophen, celecoxib, ibuprofen, morphine, and oxycodone
- Moderate to severe pain was reported in 30% of day surgery patients and 41% of overnight stay patients