

Introduction

Narcotic use has increased rapidly in the US in recent years. There is an association between pre-operative narcotic use and increased length of stay, inadequate peri-operative pain control and poor spinal surgery outcomes. Our aim was to investigate patterns of narcotic use in Canadian spinal surgery patients, examine trends over time, and determine the effect of spinal surgery on post-operative narcotic use.

Methods

Retrospective analysis of prospectively-collected data on elective thoracolumbar surgery patients in the Canadian Spine Outcomes and Research Network (CSORN) database. Self-reported narcotic use at baseline, pre-surgery and one year post-operative were compared. Baseline narcotic use by age, gender and presenting complaint was also compared. All patients meeting eligibility criteria from database inception to 2017 were included.

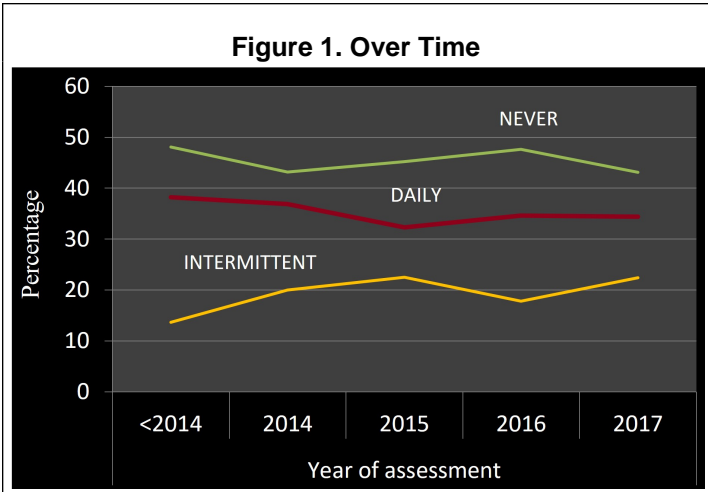
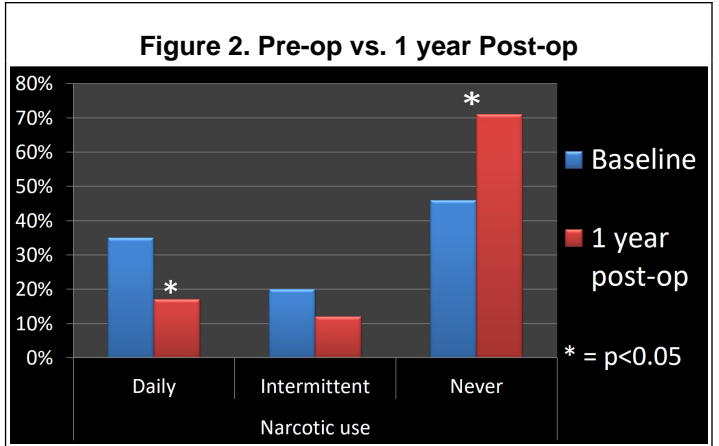


Table 1. Baseline Features		
Baseline Covariate	Non-narcotic users	Narcotic users
Sex (% male)	54.3	48.3
Age – mean years (SD, range)	60.8 (14.4, 18-89)	56.2 (14.5, 18-89)
Age categories (%)		
<65 years	52.9	67.9
65+ years	47.1	32.1
Diagnosis (%)		
Deformity	4.6	4.3
Degenerative disc disease	5.1	9.0
Disc herniation	17.2	27.6
Spondylolisthesis	37.3	28.8
Stenosis	35.8	30.3
Chief complaint (%)		
Back pain	11.5	14.8
Neurogenic claudication	46.5	34.0
Radiculopathy	42.0	51.1
Type of surgery (%)		
Decompression alone	38.3	33.5
Decompression and fusion	61.7	66.5
Surgical levels (%)		
1	63.6	61.8
2	21.7	21.6
3+	14.6	16.6
Comorbidities (%)		
none	10.3	6.5
1	21.8	19.6
2	22.6	20.3
3+	45.3	53.6
Symptom duration (%)		
<1 year	18.6	23.3
1-2 years	16.2	14.3
2+ years	65.2	62.4
Numeric pain rating		
Back – mean (SD, range)	6.42 (2.45, 0-10)	7.28 (2.13, 0-10)
Leg – mean (SD, range)	7.06 (2.26, 0-10)	7.5 (2.1, 0-10)

Results

3,511 patients met inclusion criteria. Over time (<2014 to 2017), there was no statistically significant change in the proportion of patients taking narcotics on a daily (range: 36.9% - 46.5%) or intermittent (range: 16.2% - 24.7%) basis. There was no difference in the frequency of narcotic use at baseline and pre-surgery in patients who waited longer than six weeks for surgery. There were significantly more patients using narcotics with a chief complaint of back pain or radiculopathy than neurogenic claudication (p<0.001), and who were younger (<65 years old) than older (p<0.001). At one year post-operatively, daily narcotic use decreased significantly from baseline (44.4% to 22.9% (p<0.01)).



Conclusions

Narcotic use in spinal surgery patients in Canada is widespread. Although narcotic use might decrease post-operatively, as surgeons we are having little to no impact on our patients’ narcotic use while on the waitlist for surgery. An opportunity may exist to intervene in this critical pre-operative stage to optimize surgical outcomes. Continued efforts to decrease narcotic use should be focused on <65 year old radiculopathy and back pain patients.