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Introduction

- Lumbar spinal stenosis is a common degenerative spine condition.
- Affects a significantly increasing percentage of the population as it ages, usually those over the age of 65¹.
- The "gold standard" procedure for spinal stenosis is a laminectomy, usually concomitant with partial medial facetectomies and foraminotomies after all conservative treatment options are exhausted.
- Common complications of the procedure include dural tear, infection, epidural hematoma, nerve root damage, urinary retention, deep venous thrombosis, and pulmonary embolus.
- According to SPORT, dural tear is the most common complication with an incidence rate of approximately 7-9%².
- Over the past several decades, there has been a shift to conduct more surgical procedures in outpatient and ambulatory settings.
- This expansion of same day surgical procedures now includes lumbar laminectomies.
- Several studies have shown this shift to an outpatient setting has even reduced the complication rate for other spine procedures³⁻⁴.
- Although there are several small sample studies that support conducting laminectomies in an outpatient setting, much investigation is still needed in this topic⁵.

Methods

- The retrospective cohort analysis comprised of 357 patients who underwent a one- or two- level lumbar laminectomy between January 1, 2018 and December 31, 2021.
- Patients of all genders age 65-89 years were included.
- Participants who underwent additional procedures including discectomy or those with laminectomy greater than 2 levels were excluded from the study.
- We examined trends in intraoperative factors such as length of surgery and need for transfusion and acute postoperative outcomes including need for revision, CVA, hematoma, acute renal failure (ARF), dural tear, nerve injury, surgical site infection, or mortality, as well as hospital readmissions.
- Inpatient surgery was designated for patients who stayed overnight following the procedure.
- Multivariate logistic regression analysis was used to explore the relationship between the patient's length of stay and outcome data.

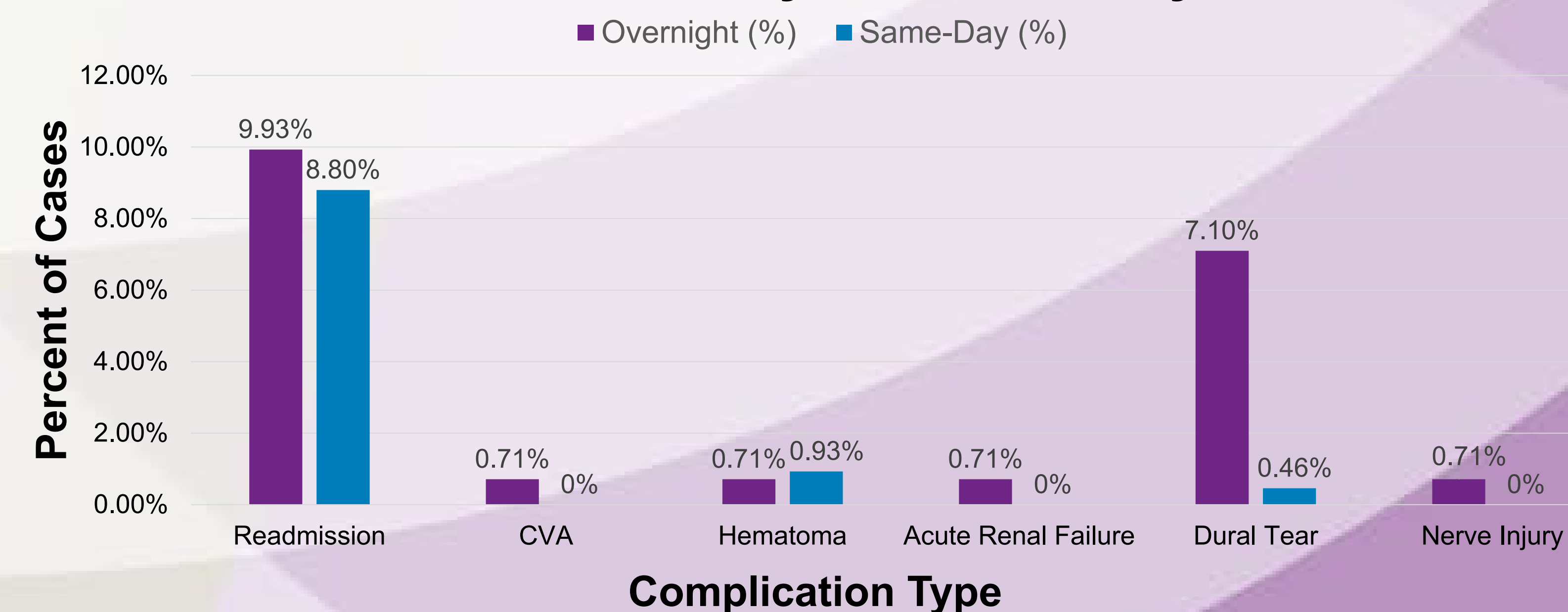
Table 1: Patient Characteristics

	Patient Length of Stay		P Value
	Overnight (n = 141)	Same-Day (n = 216)	
Sex			0.036
Female (n, %)	80 (56.7%)	98 (45.4%)	
Male (n, %)	61 (43.3%)	118 (54.6%)	
Spine Level			0.003
1-level (n, %)	66 (46.8%)	135 (62.5%)	
2-level (n, %)	75 (53.2%)	81 (37.5%)	
BMI (mean, SD)	30.2 (5.6)	29.0 (4.6)	0.04
Tobacco use (n, %)	78 (55.7%)	125 (58.1%)	0.892

Table 2: Summarized Results of Complications

	Results					
	Readmission	CVA	Hematoma	Acute Renal Failure	Dural Tear	Nerve Injury
Overnight (% , n)	9.93% (14)	0.71% (1)	0.71% (1)	0.71% (1)	7.10% (10)	0.71% (1)
Same-Day (% , n)	8.80% (19)	0% (0)	0.93% (2)	0% (0)	0.46% (1)	0% (0)
p =	0.615	0.216	0.763	0.216	<0.001	0.216

Comparison of Complications for Overnight vs. Same-Day Laminectomy



Results

- Total patient cohort was 357 patients, 178 females (49.9%), and 179 males (50.1%) age 65 to 89 years. There were significantly more female patients in our overnight group.
- Overall patient BMI ranged from 18.9 to 44.0 kg/m². Patients in the overnight group had a higher BMI.
- The same-day and overnight groups did not significantly differ on smoking history.
- There was a significant difference between groups on the laminectomy spine level, where proportionally more 1-level procedures were noted in the same-day group.
- There was no significant difference between the groups on incidence of CVA, hematoma, ARF or nerve injury.
- The two groups also did not have a significant difference in the rate of readmissions.
- However, there was a significantly higher proportion of patients with a dural tear in the overnight group. 7.10% of overnight patients had this complication compared to 0.46% of same-day patients (p-value less than 0.001).

Conclusions

- The goal of this study was to evaluate the differences in early complication rates (less than 90 days) between outpatient and overnight laminectomy cases.
- Outcomes included readmissions, intraoperative and postoperative complications.
- Our findings revealed that most complications and readmission rates did not differ between the groups, with the exception of dural tear, which was less prominent in the same-day group.
- These results can add more credibility to shifting laminectomies to ambulatory/outpatient centers; offering us a cost-effective alternative to traditional overnight procedures.
- Subsequent studies may analyze differences in long-term complications for this procedure.

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