differences in clinical outcomes between those surgically treated for lumbar disk herniation in Canada as compared to the United States. **Methods:** Surgical lumbar disk herniation patients enrolled in the Canadian Spine Outcome Research Network (CSORN) prospective registry. were compared with the surgical cohort enrolled in the Spine Patients Outcome Research Trial (SPORT) study. Spine-related patient reported outcomes (PROs) were compared at 3 months and 1 year. **Results:** The CSORN cohort consisted of 443 patients and the SPORT cohort was made up of 573 patients. Patients in the CSORN cohort were older ($p<0.001$), and were more likely to be employed ($p=0.003$). The CSORN cohort demonstrated significantly greater rates of satisfaction after surgery at 3 months (87.2% vs. 65.5%, $p=0.003$) and 1 year (85.6% vs. 69.0%, $p<0.0001$). The CSORN cohort was a significant independent predictor of patient satisfaction at 1 year. **Conclusions:** Patients undergoing surgical treatment for lumbar disc herniation in Canada reported higher rates of satisfaction at 3 months and 1 year post-operatively compared to the United States.

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The effect of peri-operative adverse events on long-term patient reported outcomes after lumbar spine surgery

O Ayling (Vancouver)*, *C FIsher* (Vancouver)

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Background: Peri-operative adverse events (AE) lead to patient disappointment and greater costs. There is a paucity of data on how AEs affect long-term outcomes. The purpose of this study is to examine peri-operative AEs and their impact on outcome after lumbar spine surgery. **Methods:** 3556 consecutive patients undergoing surgery for lumbar degenerative disorders enrolled in the Canadian Spine Outcomes and Research Network were analyzed. AEs were defined using the validated Spine AdVerse Events Severity system. Outcomes at 3,12, and 24 months post-operatively included the Owestry Disability Index (ODI), SF-12 Physical (PCS) and Mental (MCS) scales, visual analog scale (VAS) leg and back, Euroqol-5D (EQ5D), and satisfaction. **Results:** Adverse events occurred in 767 (21.6%) patients, 85 (2.4%) suffered major AEs. Patients with major AEs had worse OD (physical disability) scores and did not reach minimum clinically important differences at 2 years (no AE 25.7 $\pm$19.2, major: 36.4$\pm$19.1, $p<0.001$). Major AEs were associated with worse ODI (physical disability) scores on multivariable linear regression ($p=0.011$). **Conclusions:** Major AEs after lumbar spine surgery lead to worse functional outcomes and lower satisfaction. This highlights the need to implement strategies aimed at reducing adverse events.

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Mechanism of injury is associated with neurological outcomes in cervical sensorimotor complete traumatic spinal cord injury

AB Bak (Toronto)* *A Moghaddamjou* (Toronto)*, M Fehlings* (Toronto)

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Background: There is significant heterogeneity in neurological recovery after complete (ASIA A) traumatic spinal cord injury (tSCI). Neurological recovery is often associated with a conversion to a higher letter grade of the American Spinal Injury Association's impairment scale (ASIA). The mechanism of injury (MOI) may play a significant role in the primary injury and should be considered for greater precision in care. **Methods:** We isolated ASIA A cervical tSCI patients from three multicenter prospective randomized controlled trials (NACTN, STASCIS, Sygen). Chi-square test with pairwise comparisons with Bonferroni corrections was performed to compare the proportion of ASIA A patients that converted to a higher ASIA grade between different MOI. **Results:** We identified 486 complete cervical tSCI patients. For patients who developed tSCI as a result of a fall, a significant proportion converted to a higher ASIA grade by 52 weeks ($p = 0.009$). For patients who developed tSCI as a result of a sports injury, a significantly smaller proportion did not convert to a higher ASIA grade compared to those that converted ($p = 0.034$). **Conclusions:** Due to the difference in outcomes, tSCI patients should be treated differently depending on their mechanism of injury.

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Frailty is an Important Predictor of 30-day Morbidity in Patients Treated for Lumbar Spondylolisthesis Using a Posterior Surgical Approach

V Chan (Edmonton)* *C Witiw* (Toronto) *J Wilson* (Omaha)*, MG Fehlings* (Toronto)

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Background: A non-operative approach has been favoured for elderly patients with lumbar spondylolisthesis due to a perceived higher risk with surgery. However, most studies have used an arbitrary age cut-off to define "elderly." We hypothesized that frailty is an independent predictor of morbidity after surgery for lumbar spondylolisthesis. **Methods:** The American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database for years 2010 to 2018 was used. Patients who received posterior lumbar spine decompression with or without posterior fusion instrumented fusion for degenerative lumbar