

The Canadian Spine Society is a collaborative organization of spine surgeons advancing excellence in research, education and patient care

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# 20<sup>th</sup> ANNUAL SCIENTIFIC CONFERENCE OF THE CANADIAN SPINE SOCIETY

Wednesday, February 26<sup>th</sup> - Saturday, February 29<sup>th</sup>



# ABSTRACTS FOR PRESENTATION 2020

Fairmont Château Whistler 4599 Château Boulevard Whistler British Columbia V8E 0Z5  
Canada

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**Accreditation:** *This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada, approved by The Canadian Orthopaedic Association.*

**Course Objectives:** *Every year the Canadian Spine Society in conjunction with the Canadian Paediatric Spine Society holds its Annual Scientific Conference. This year the CSS and the CPSS are joined by Spine Societies from the United Kingdom and Brazil. The meeting will cover both adult and paediatric spinal conditions and include etiology, clinical presentation and current treatment, both surgical and non-operative. The format is a CME approved combination of didactic lectures, symposia, poster presentations and case reviews. There are sessions specifically aimed at surgical residents and fellows debating the appropriate operative management of selected cases with senior clinicians. A particular focus is the natural history of untreated scoliosis, combining insights from both the Canadian and the Brazilian experience. Timely access to care is an ongoing concern worldwide and the knowledgeable participants will advance constructive solutions. The British Association of Spine Surgeons will hold a symposium on the diagnosis and treatment of Acute Cauda Equina Syndrome. Spine specialists in all countries face similar clinical problems but employ differing solutions depending on local resources and healthcare delivery. The program offers ample opportunity for professional contact, sharing ideas and problems. The agenda design promotes comfortable, extended interaction with the exhibitors allowing attendees the chance to inspect and assess the latest surgical equipment and implants. The collegial atmosphere enhances sharing knowledge and discourages aggressive marketing. This Annual Scientific Conference remains the most important spine meeting in Canada.*



## Surgical Site Infection Reduction – a 10 year Quality Improvement Journey

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### Objectives

In 2007, the spine surgical site infection (sSSI) rate at our Canadian quaternary referral center was 8.1%. As a result, a multidisciplinary team was created to identify and initiate quality improvement (QI) strategies to reduce this unacceptably high sSSI rate. This abstract outlines the institutional and divisional QI strategies that have been central to our ongoing efforts to reduce the incidence of sSSI.

### Method

A framework for evaluating surgical safety, based on that proposed by Mirza, was adopted to identify risk factors for sSSI at our institution. Surgical [midline lumbar approach, Odds Ratio (OR) 4.2], microbiological [UTI, OR 5.8], patient [DM, Odds Ratio (OR) 4.2] and process [ICU, OR 1.75] factors were explored. A predictive model for sSSI was developed with an AUC of 0.88. Numerous QI initiatives were introduced and their effect on sSSI monitored by the institutional Infection Prevention and Control (IPAC) group.

### Results

From 2008, the Wiltse approach was used, in favour of midline, for one and two level decompression and fusion of the lumbar spine. Total sSSI rate fell from 8.1% to 7.2%. Routine use of intra-operative navigation from 2009 did not adversely effect the sSSI rate. From 2011 to 2014, photodynamic nasal decolonization and chlorhexidine skin decontamination (PDT/CHG) was applied to all elective and emergency spine cases, with the sSSI rate falling from 7.2% to 2%. With routine use of intra-wound vancomycin powder in posterior instrumented cases from 2016, total sSSI rates further reduced from 2% to 1.6%. With the routine use of silver coated indwelling urinary catheters in patients with acute traumatic SCI, sSSI rates were reduced to 0.8% by early 2019 and have remained <1% since.

### Conclusions

We present our experience in addressing sSSI through risk identification and prophylactic quality improvement initiatives. We highlight the importance of a multidisciplinary team approach, the value of a safety framework model and the importance of continued use of the Plan-Do-Study-Act cycle model.