2022

Scottish Spine Surgeons

13TH ANNUAL MEETING - PROGRAMME

DUNDEE

Scottish Spine Surgeons 13th Annual Meeting - Programme

The Scottish Spine Surgeons seek to promote safe and best practice spinal surgery across Scotland. Our annual meeting is a friendly forum for learning, discussion and promotion of this aim. Further information is available via the website www.spinesurgeons.scot.

Continuing Professional Development (CPD): the Royal College of Surgeons of Edinburgh have awarded / approved 8 hours of CPD – Recognition number – RCSEd02861 (5 hours Day 1, 3 hours Day 2).

Day 1: Friday 11th November			
11:00 – 11:19	Arrival, meet sponsors at displays and coffee – Malmaison Hotel Dundee		
Session 1 - Chair: TBC			
11:20 – 13:00	11:20	Welcome	Heinke Pulhorn
	11:30	Update on Trials	M El-Sheik
	12:30	Rare / Complicated Case Discussion	G Cousins / N Craig
13:00 – 14:00	Meet sponsors at displays and lunch – Malmaison Hotel Dundee		
Session 2 - Chair: TBC			
14:00 – 15:30	14:00	A Life in Spine Surgery 1	P Statham
	14:30	A Life in Spine Surgery 2	T Reece
	15:00	Robotics in Spine Surgery	M Draz
	15:15	Vertebral artery course and variations	M Abdelsagd
15:30 – 16:00	Meet sponsors at displays and coffee –		

Session 3 - Chair: TBC			
16:00 – 18:00	16:00	The Physiotherapy Perspective	T Thomson
	16:30	The Management of acute foot drop	H Shekhar
	17:00	Discussion	All

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Drinks 18:30 – 20:00 – venue to be confirmed (? Wine Press)

Annual dinner – 20:00 at Malmaison Hotel, Dundee

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Day 2: Saturday 12th November			
09:00 – 09:15	Meet sponsors at displays and coffee –		
Session 4 - *Free Papers* Chair: TBC			
09:15 – 10:15		Free papers – list below	
10:15 - 10:45		Wrong site surgery	J George
10:45 – 11:15	Meet sponsors at displays and coffee –		
Session 5 – Chair: TBC			
11:15 – 12:15	11:15	DEBATE: Wrong-level surgery as a never event? Open discussion with arguments	for C Adams against C Barrett
	12:00	Vote on the motion	
	12:15	Waste reduction in theatre	H Pulhorn
12:45 – 13:10	12:45	Where shall we meet again? Proposal for Aberdeen SSS past, present and future	H Pulhorn C Adams
	13:00	Awards of free paper prizes Closing remarks	H Pulhorn
13:10 – 14:00	Lunch –		
SAFE HOME			
Thank you for completing feedback to obtain your CPD certificate. This will open at the end of the meeting on the web site			

Sponsors

Many thanks to our sponsors for funding all of this meeting (in order of confirmation)
Thank you for visiting and speaking to them during our meeting.

òir (gold). £3,000

	stryker	
	https://www.stryker.com/gb/en/index.html	

reisgte (silver). £2,000

macromed iFACTOR® Peptide Enhanced Bone Graft	GLOBUS MEDICAL	Baxter
https://www.macromed.co.uk/product-overviews/spinal-products/	http://www.globusmedical.com/products/	https://www.baxterhealthcare.co.uk

umha (bronze). £1,000

DePuy Synthes	SafeOrthopaedics	B|BRAUN	
https://www.jnjmedtech.com/en-EMEA/companies/depuy-synthes	https://www.safeorthopaedics.com/our-products/sterispine-ps/	https://www.bbraun.com/en.html	

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13th Meeting - Dundee 2022

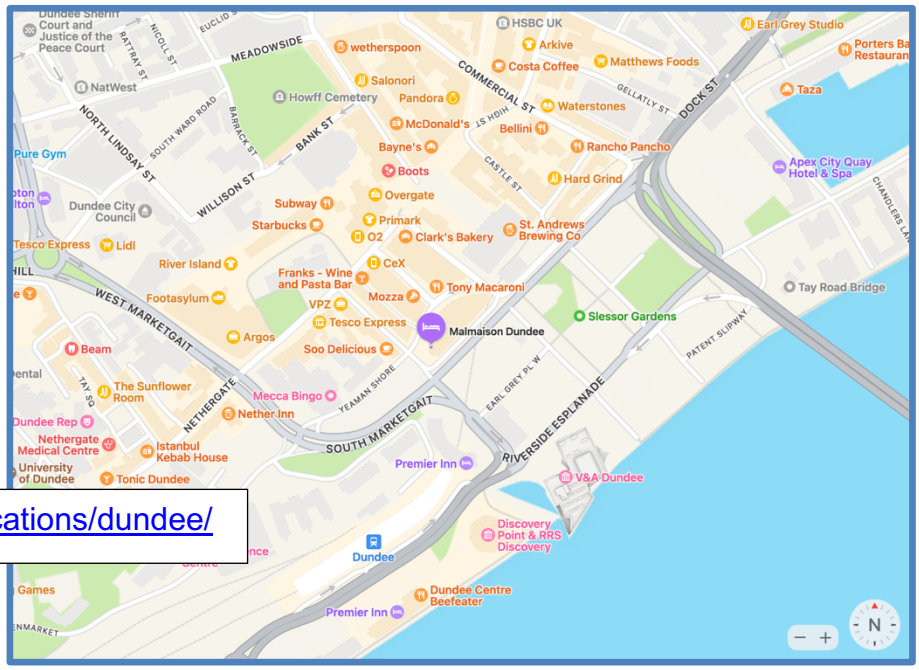
Venue

Malmaison Hotel
44 Whitehall Crescent
Dundee
DD1 4AY

Accommodation

Malmaison Hotel
44 Whitehall Crescent
Dundee
DD1 4AY
01382 339715

https://www.malmaison.com/locations/dundee/



FREE PAPERS AND CASE PRESENTATIONS

Any health care professional can submit a paper abstract for podium presentation. Both research and audit presentations are equally welcome. As in previous years the free paper presentations have to be about spine surgery and include a minimum of three patients on a topic.
The paper can have been presented at other meetings. A standard abstract format is used, on the papers and prizes web page.

PRESENTERS:

Please arrive before the start of the free paper session. Bring your presentation in PowerPoint or PDF format for loading to the lectern computer.

FREE PAPERS

Each free paper is a 5 minute oral podium presentation. To keep to time and make all fair microphones are cut at 30 seconds over so please rehearse and stick to your allocated time. Immediately after 2 minutes for questions. Order and timing: as below.

Free Paper Prizes

There are a First and Runner up free paper prizes, awarded at meting close. To be eligible you must be a trainee, medical student or other health care professional, ie. not a consultant. To be awarded the eligible person must be the person presenting.

CASE PRESENTATIONS

If time is available, each case presentation is a 4 minute oral presentation and 1 minute for questions.

9.15 – Paper 1

Decompression alone versus decompression and fusion for degenerative lumbar foraminal stenosis: a systematic review

Authors: Pratik Shah, Duncan Whittaker, Tristan McMillan, Andrew Frost. Santosh Baliga
Institution: Department of Orthopaedics, Woodend Hospital, Aberdeen, UK
Conflicts of Interest: none to declare
Funding source: no funding received

Introduction: Lumbar foraminal stenosis is a debilitating condition which leads to radiculopathy. Surgical management is aimed towards achieving adequate decompression. However, the biomechanics of foraminal stenosis poses a unique challenge of balancing adequate decompression without compromising stability. Current surgical options are broadly divided into decompression alone (DA) or decompression with fusion (DF). Our systematic review aimed to review the current literature to ascertain whether one was better than the other.

Methods: Literature search was performed on Pubmed, Medline and Embase databases. Papers that reported on outcomes of foraminal stenosis were included in the study. Studies that reported non-degenerative disease, spondylolisthesis and central canal stenosis were excluded from the search. Papers for analysis were selected using PRISMA protocol. Cochrane risk of bias tools were used to assess bias. Primary outcome was improvement in radicular pain and the main secondary outcome analysed was post-operative complication.

Results: A total of 9 studies including 331 patients were included in the analysis. 228 patients had DA and 103 patients had DF. There was no significant difference in radicular leg pain between the DA and DF group. ($p<0.05$). While there was no difference in the overall complication rate, each group showed some specific complications.

Discussion/Conclusion: Our study highlights the sparsity of high-quality evidence for this condition. Both DA and DF show significant advantages and disadvantages with regards to outcome. However, there is a lack of high-quality evidence to favour one over the other. We propose a new classification system for foraminal stenosis to guide further research.

9.23 – Paper 2

ESP Re-Evaluation of the Neurosurgical Spinal Waiting List Long Waiters

Authors: Jo Chambers, Susan Morison
Institution: Neurosurgery, Institute Neurological Sciences, QEUH, Glasgow
Conflicts of Interest: nil
Funding source: N/A

Background context: One impact of COVID-19 restrictions was the creation of excessive spinal surgical waiting times. The likelihood of changes to either symptoms or pathology was therefore considerably increased. The current process of medical re-assessment at ward admission was inefficient and potentially costly. A new process was required, to identify those long waiter patients still requiring surgical intervention prior to admission.

Aim / Purpose: Identify patients on the existing neurosurgical waiting list still requiring spinal surgical intervention prior to admission
Study design / Setting: Audit of patient outcome
Patient Sample: 149 patients

Outcome Measures:
Methods: It was agreed that the current Extended Scope Physiotherapy (ESP) Service re-evaluate patients waiting in excess of 18months on the spinal surgical waiting list. This included symptom assessment, neurological evaluation, updating imaging and highlighting the impact of any changes on the planned procedure. The process was undertaken within an outpatient/virtual setting. Data was collected indicating patients still requiring surgery, changes to current surgical plan and whether surgery was no longer clinically indicated

Results: 149 patients were re-evaluated June - November 2021.
- 84 (56%) patients required updated imaging
- 9 (6%) awaiting further ESP review
- 88 (59%) patients remain on the waiting list as planned (WLP),
- 12 (8%) patients remain on the waiting list with changes to clinical priority or procedure offered (WLC).
- 3 (2%) patients required consultant review
- 37 (25%) patients no clinical indication for or no longer wanted spinal surgery (D/C)

Conclusions: This initiative streamlined the process for existing surgical patients who can confidently be issued a surgical date.
Outpatient re-evaluation prior to admission reduced bed usage and ward-based medical time.

9.31 – Paper 3

Surgical outcomes and long-term functional status of patients with Duchenne Muscular Dystrophy (DMD) who underwent spinal deformity correction

Authors: Ayesha Arshad, Athanasios I. Tsirikos
Institution: Scottish National Spine Deformity Centre,Royal Hospital for Sick Children, Edinburgh, UK.
Conflict of interest: NIL
Funding: None declared.

Background: There is limited information on long-term functional outcomes in DMD patients following scoliosis surgery.
Aim: To analyse the factors affecting long-term functional outcomes following scoliosis surgery.
Study design: Retrospective cohort.
Patient Sample: All patients with DMD undergoing scoliosis surgery in our service from 2000-2022.
Outcome Measures: Patient and surgery details, radiological and functional parameters pre- and post-operatively were measured and analysed.
Methods: Data was collected from hospital records/radiographs. At follow-up, patients completed the MDSQ. Regression analysis/ANOVA were done with XLSTAT for analysis.
Results: 43 patients had mean age 14.4 years at surgery. Mean surgical time was 352.1 minutes, mean blood loss 36% of total blood volume. Mean hospital stay was 14.1 days. 25.6 % patients developed postoperative complications. Mean preoperative scoliosis and pelvic obliquity was 58° and 16.4°; thoracic kyphosis and lumbar lordosis was 55.8° and 11.1°; coronal and sagittal balance were 3.8cm and 6.1cm. Post-operative mean correction was 79.2% and 80.8% for scoliosis and pelvic obliquity.
Mean follow-up was 10.9 years. During this, 24 patients died. Sixteen patients completed the MDSQ at mean age 25.4 years. Mean MDSQ score was 38.1 and was significantly affected by length of follow up, age at surgery, age at loss of ambulation, post-operative Cobb's angle, scoliosis correction and lumbar lordosis. 100% were satisfied with their surgery.
Discussion: Disease progression and surgical correction are important determinants of long term functionality in these patients.
Conclusion: Spinal surgery in DMD can achieve satisfactory results maintained at follow-up and lead to high patient satisfaction.

9.39 – Paper 4

Title: How to spot the recurring lumbar disc?

Authors: Abdel-Rahman Abdel-Fattah, Alex Irving, Santosh Baliga, Phyo K Myint, Kathryn Martin
Institution: University of Aberdeen, School of Medicine, Medical Sciences and Nutrition
Conflicts of Interest: None declared.
Funding source: Abdel-Rahman Abdel-Fattah received the "Wolfson Foundation Intercalated Degree Research Fellowship" from the Royal College of Physicians, England.

Background context: Clinically important risk-factors for recurrent lumbar disc herniation (rLDH) have been subject to growing controversy despite an increasing evidence-base.
Aim / Purpose: To identify risk factors for rLDH after primary discectomy.
Study design / Setting: Systematic-review and meta-analysis.
Patient Sample: Adult patients >18 years with rLDH.
Outcome Measures: Recurrence.
Methods: A systematic literature search was carried out using Ovid-Medline, EMBASE, Cochrane library and Web-of-Science databases from inception to 23rd June-2022. Observational studies of adult patients with radiologically-confirmed rLDH after ≥3 months of the initial surgery were included, and their quality assessed using the Quality-In-Prognostic-Studies (QUIPS) appraisal tool. Meta-analyses of univariate and multivariate data and a sensitivity-analysis for rLDH post-discectomy were performed.
Results: Twelve studies (n=4497, mean age:47.3; 34.5% female) were included, and 11 studies (n=4235) meta-analysed. The mean follow-up was 38.4 months. Mean recurrence rate was 13.1% and mean time-to-recurrence was 24.1 months (range: 6-90 months). Clinically, older age (OR:1.04, 95%CI:1.00-1.08, n=1014), diabetes mellitus (OR:3.82, 95%CI:1.58-9.26, n=2330) and smoking (OR:1.80, 95%CI:1.03-3.14, n=3425) increased likelihood of recurrence. Radiologically, Modic change type-2 (OR:7.93, 95%CI:5.70-11.05, n=1706) and disc extrusion (OR:12.23, 95%CI:8.60-17.38, n=1706) increased likelihood of recurrence. The evidence did not support an association between rLDH and sex; BMI; occupational labour/driving; alcohol-consumption; Pfirmann-grade, or herniation-level.
Conclusions: Older patients, smokers, patients with diabetes, those with type-2 Modic changes or disc extrusion are more likely to experience rLDH. Higher quality studies with robust adjustment of confounders are required to determine the clinical bearing of all other potential risk factors for rLDH.

9.47 – Paper 5

The outcome of temperature monitored spinal braces for adolescent idiopathic scoliosis (AIS): A comparison to an updated systematic review

Authors: Malcolm. Scott-Watson, Sophie F. Adams, Melville Dixon, Silvia Garcia-Martinez, Mhairi Johnston, Christopher I. Adams
Institution: Royal Hospital for Children, Orthotics Department, Glasgow, G51 4TF, UK.
Conflicts of interest: None.
Funding source: There was no funding for this study.

Background: Successfully treating adolescent idiopathic scoliosis (AIS) with bracing is thought related to time worn and scoliosis severity.
Aim: To measure whether patients achieve service recommended brace wear of 20 hours a day and assess outcome.
Study design: retrospective cohort.
Patient sample: 14 patients with prospectively collected data from 2014 to 2020.
Outcome measures: Brace temperature data logger. Spinal X-ray Cobb angle measure.
Methods: Temperature data from first brace treatment for total daily brace wear and daywear (8am-8pm) versus nightwear (8pm-8am). "Success" measure from Bracing in Adolescent Idiopathic Scoliosis Trial (BrAIST), less than 50o Cobb with no surgery.
Results: all patients were female, average age 12.4years (range 10.3-14.6) and pre-brace 49o Cobb (30-64). They averaged 16.3hours (3.5-22.2) brace wear each day, so brace compliance was 38%, with 4 achieving more. Daywear averaged 7.6 hours (2.5-11.2) versus nightwear 8.7 hours (0.4-11.5).
Of the 13 patients who completed brace treatment, the majority had surgery (7/13; 54%) or were considering surgery (1/13; 8%). Of the other 5 with no surgery at discharge (5/13; 38%); only 1 achieved a 40o Cobb with 4 larger (53o;53o;54o;68o) giving a "success" measure of 1/13 (7.6%).
Discussion: This group has worse scoliosis on treatment offer for first brace than literature comparisons with this the likely main issue for low "success". Temperature monitoring allows measurement of time in brace, but whether this helps patients comply with their orthotic prescription requires further work. This group achieved about equal total time by daywear and nightwear that can help inform the ongoing debate of which is better.
Conclusions: Our patients need to receive an offer of bracing earlier in the natural history of their scoliosis. The minority of our patients comply with current wear time advice but average over the literature 13 hours for 90% treatment effect.

9.55 – Paper 6

Life expectancy in paediatric patients with Duchenne muscular dystrophy (DMD) who underwent spinal deformity correction

Authors: Ayesha Arshad, Athanasios I. Tsirikos
Institution: Scottish National Spine Deformity Centre, Royal Hospital for Children and Young People, Edinburgh, UK
Conflicts of Interest: None declared
Funding source: None declared

Background: Life expectancy in DMD is increasing but limited information is available on factors effecting post-operative survival after scoliosis surgery.
Aim: We investigated survival rates after scoliosis correction in DMD patients and analysed factors affecting it.
Study design: Retrospective cohort study
Patient Sample: All patients with DMD having scoliosis surgery at our centre from 2000-2020 with at least two years follow up were included.
Outcome Measures: Patient demographics, surgery details and radiological parameters pre- and post-operatively were measured and analysed.
Methods: We reviewed hospital records/radiographs and analysed data with XLSTAT. Kaplan-Meier survival and multivariate Cox regression analysis was performed.
Results: 43 patients had mean age at surgery 14.4 years. Mean postoperative follow-up was 10.9 years. 24 patients (55.8%) died due to cardio-respiratory failure. Mean survivorship was 22.5 years with 95%CI varying from 261.2–280.4 months (median survival: 14.1 years). Preoperative coronal/sagittal balance and pelvic obliquity, intra-operative blood loss, extension of fusion to the pelvis and length of hospital stay significantly affected survival. In contrast, age at surgery, preoperative/postoperative scoliosis, thoracic kyphosis, lumbar lordosis, scoliosis and pelvic obliquity flexibility or correction indices, postoperative coronal/sagittal balance, need of preoperative non-invasive ventilation, preoperative feeding disorders, surgical complications and ICU stay did not significantly affect post-surgical survival.
Discussion: The post-operative survival in these patients is affected by factors that translate into disease and deformity severity, as well as surgical morbidity.
Conclusions: Prolonged predicted survival can be expected for young patients with DMD after scoliosis correction. This is affected by disease severity and surgical morbidity.

10.03 – Paper 7

Surgical consent regarding wrong-level spine surgery

Authors: Caroline Scott, Nathan McSorley, Heinke Pulhorn
Institution: Department of Neurosurgery, Ninewells Hospital. Dundee
Conflicts of Interest: None declared
Funding source: None declared

Objectives: To document consent for the risks of lumbar microdiscectomy/decompression surgery, particularly focusing on the risk of wrong level surgery. This is intended to reflect the recent removal of wrong level spine surgery from the list of Surgical Never Events.
Design: Retrospective case note review.
Subjects: Patients who underwent lumbar discectomy/decompression surgery between 01/10/21 and 31/03/22.
Methods: Consent forms for patients who underwent lumbar disc/decompression surgery between 01/10/21 and 31/03/22 were reviewed. The risks of surgery documented were recorded and compared to the audit standard as defined by the British Association of Spine Surgeons and the SBNS.
Results: 54 consent forms were reviewed. Good documentation of consent regarding the risks of infection (100%), haematoma (98%), CSF leak (98%) and nerve root damage (98%). Documentation of consent of risks to life (74%) could be improved. Before the release of the new Never Events list, 14% of consent forms documented consent regarding the risk of wrong level surgery. This increased to 61.5% after the 17th of December, which could still be improved upon.
Conclusions: The removal of wrong level surgery from the list of Never Events is reflected in the documentation of the risk of operating on the wrong level of spine. However, documentation of consent to the risks of lumbar disc/decompression surgery is variable and further interventions to improve consent may be indicated.

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