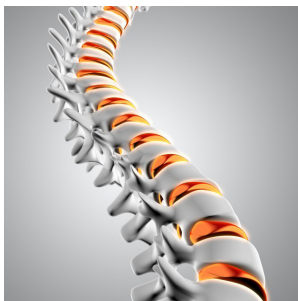


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# Poster Presentation

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## *Spine 2019*



4<sup>th</sup> International Conference on  
Spine and Spinal Disorders  
September 03-04, 2019 | London, UK

4<sup>th</sup> International Conference on

# Spine and Spinal Disorders

September 03-04, 2019 | London, UK

## Spinal Epidural Abscess in Immunocompetent child: A case report and review of literature

Al-Saadi Tariq<sup>1,2</sup>, Al Shandoudi Leena<sup>3</sup>, Al Sharqi Jawahir<sup>4</sup>, Al Adawi Zakariya<sup>5</sup> and Al Sharqi Ali<sup>3</sup>

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Spinal epidural abscess (SEA) is uncommon and rare condition in immunocompetent population and even more rare in pediatric group. The incidence of spinal epidural abscess appears to be increasing and comprises up to 2 per 10,000 hospital admissions. The presentation is variable and diagnosis can be easily missed on first visit. The diagnosis is established by history, clinical examination finding, increased inflammatory markers and neurological imaging. Surgical decompression and drainage in combination with antibiotic for four to six weeks are the typical treatment for SEA. An alternative treatment with parenteral antibiotic only is an alternative treatment. We reported an 11-year-old girl presented fever, chest and back pain she was found to have unsteady gait and lower extremity weakness. Spinal MRI showed heterogeneous enhancing collection in the posterior

epidural space from the level of T2 vertebra to T10 vertebra. She was treated with antibiotic for 6 weeks without complications.

### Speaker Biography

Tariq Al-Saadi is a neurosurgical resident at McGill University-Montreal Neurological Institute in Canada. Graduated first rank with distinction from Sultan Qaboos University in Oman in 2016. After completing his internship, he joined the Department of Neurosurgery at Khoula Hospital, which is the National Trauma Center in Oman. Throughout his undergraduate and post graduate years, he has been an active member of various surgical societies with high passion for research and medical education. Has been invited as a speaker to several national and international meetings and has published in various peer reviewed journals. He is an editorial board member of the Gulf Research Collaboration Group (GRCG), which is established to conduct multi-centric high-quality research in the Gulf area.

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# Spine and Spinal Disorders

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## Relationship between Low Back Pain and types of Office, Home and Car Seats in Sultan Qaboos University Staff

Tariq Al-Saadi<sup>1,2</sup>, Ahmed Al Kumzari<sup>3</sup> and Mohammed Hassan<sup>3</sup>

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**Objectives:** Sitting is something reflects the art between the bony skeleton and other soft tissue like muscles and ligaments, and these all controlled by nerve structures and higher brain function. Low back pain can sometimes begin without warning due to the fact that discs and cartilage do not have nerve supply. LBP is a constellation of symptoms that is usually acute and self-limiting. However, prolongation of such pain leads to chronic low LBP, the cause of which can be iatrogenic in many instances. Low back pain is the most reported disease because the low back supports most weight of the human body when sitting or standing, and the majority of the muscular activities take place in this region.

**Aim:** The aim of this investigation was to study the prevalence of low back pain (LBP) and its relationship to chair designs and sitting postures in Sultan Qaboos University (SQU).

**Methods:** A cross-sectional survey using a standardized questionnaire with established reliability and validity. The questionnaire sought information on social and demographic characteristics, history of LBP, its duration, number of hours spent sitting in office, car and at home, job type, severity of LBP, factors predisposing to LBP and types of treatment used. All participants of study were consented using a signed and attended consent form.

**Results:** Three hundred subjects, 174 males and 126 females aged 20 - 60 years participated in the study. The prevalence of LBP among SQU staff was 44.7% of whom 68% had LBP for ≥ 1 year and 66% had LBP for < 1year. Those who had LBP for ≥ 1 year were mostly bellow 50 years of age.

**Discussion:** The prevalence of LBP among SQU staff was 44.7%. In this study, the prevalence of LBP was higher among men than women. Some studies have reported opposite trend and others have shown no gender differences. A Study done in UAE showed that the prevalence of LBP was higher in women than in men. In the present study, the prevalence of LBP was higher amongst doctors, technicians

and administrators than in teachers and manual workers. A previous study showed that the prevalence of LBP was highest among nurses followed by administrators and cleaners. Some studies associated LBP with heavy physical work, bending, poor posture and prolonged sitting or standing. The prevalence of LBP was higher in subjects using dynamic chairs with fixed ratio between the base and the back of the chair than those using fixed chair with back and pelvic support. Also, the study results showed a significant relationship between LBP duration and the use of dynamic chairs with fixed arm supports ratio.

**Future Directions:** Health education on posture and the best types of office, car and home seats should be introduced in the workplace to reduce the burden of LBP to the patient and to health authorities. Future researches should focus on expanding this study to a spectrum of local manufacturers to help design better chairs and advice on their optimum use.

**Conclusion:** It was found that the prevalence of LBP in SQU was higher among doctors (50.0%), technicians (48.1%) and administrators (46.9%) than in teachers (42.9%) and manual workers(22.2%).The study also showed a significant relationship between the duration of sitting in home chairs and LBP.

### Speaker Biography

Tariq Al-Saadi is a Neurosurgical resident at McGill University-Montreal Neurological Institute in Canada. Graduated first rank with distinction from Sultan Qaboos University in Oman in 2016. After completing his internship, he joined the Department of Neurosurgery at Khoulou Hospital, which is the National Trauma Center in Oman. Throughout his undergraduate and post graduate years, he has been an active member of various surgical societies with high passion for research and medical education. Has been invited as a speaker to several national and international meetings and has published in various peer reviewed journals. He is an editorial board member of the Gulf Research Collaboration Group (GRCG), which is established to conduct multi-centric high-quality research in the Gulf area.

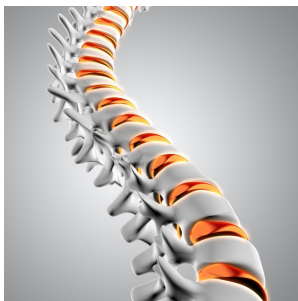
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# Accepted Abstracts

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## *Spine 2019*



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# Spine and Spinal Disorders

September 03-04, 2019 | London, UK

## Can multilevel standalone Cervical fusion replace multilevel plating in outpatient setting

Kingsley R Chin<sup>1,2,3,4</sup>, Fabio J R Pencil<sup>1,4,5</sup> and Jason A Seale<sup>1,5</sup>

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**Introduction:** Cervical fusion for degenerative disc disease continues to be the standard method of treatment. Anterior cervical discectomy and fusion (ACDF) and anterior cervical corpectomy and fusion (ACCF) combined with the use of plates are well-known surgical treatments in patients with two level anterior cervical disc diseases. Multi-level ACDF methods can also be subdivided into several different methods including ACDF using tricortical autograft and plate fixation (ACDF-AP), ACDF using stand-alone cage (ACDF-CA), and ACDF using cage and plate fixation (ACDF-CP). The authors aim to demonstrate the use of standalone cages in multilevel anterior cervical discectomy and fusion.

**Methods:** Retrospective review of prospectively collected data of 37 patients who had multilevel ACDF-CA compared to a historical cohort of 32 patient with multilevel ACDF-CP. Outcomes assessed where VAS scores, NDI and fusion rate.


**Result:** Of the 37 patients in Group 1 (ACDF-CA), 67% were female with the group's mean age being 52.8+/- 8.9 years and a mean BMI 30.6+/-7.1 kg/m<sup>2</sup>. Of the 32 patients in Group 2 (ACDF-CP), 78% were female with the group's mean age being 55.7+/- 7.6 years and a mean BMI 32.1+/-6.4 kg/m<sup>2</sup>. No statistical differences in gender, age or BMI were found between groups, p=0.843, 0.691 and 0.947 respectively. The demographics are summarized in Table 1, including

pathological levels treated and chief complaints (indication for operation).

There was no significance between preoperative VAS neck, arm and NDI scores between Groups 1 and 2, p=0.520, 0.83 and 0.43 respectively. Analysis of follow-up at the one-year period demonstrated that Group 1 mean preoperative VAS neck scores improved from 8.5+/-1.3 to 0.8+/-0.1 at one-year follow-up, p<0.001. Preoperative VAS arm scores improved from 6.1+/-1.9 to 1.1+/- 0.7, p<0.001. Preoperative mean NDI scores decreased from 33.6+/-3.7 to 11.6+/-1.3 at one-year follow-up, p<0.001. Group 2 mean preoperative VAS neck scores improved from 8.8+/-1.0 to 1.5+/-0.3 at one-year follow-up, p=0.001. Preoperative VAS arm scores improved from 6.7+/- 1.6 to 1.6+/-0.2, p<0.001. Preoperative mean NDI reduced from 35.8+/-2.5 to 12.8+/-1.7 at 1-year follow-up, p=0.001. 100% fusion was achieved in both groups with group 1 demonstrating sentinel sign as early as 6 months (Figure 1).

**Conclusion:** Stand alone anterior cervical fusion is gaining popularity with increase of less exposure techniques. This study shows that multilevel ACDF-CA is a feasible technique for outpatient cervical spine and can replace outpatient cervical fusion with plates.

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# Spine and Spinal Disorders

September 03-04, 2019 | London, UK

## Indirect technique and elderly care: Applications in Manual Therapy

**Minos Thomas Gordy**

Spinal Unwinding, USA

There are a number of converging issues that will reach crisis levels in the near future. The world's population is aging virtually every country in the world is experiencing growth in the number and proportion of older persons in their population. An aging populace also predetermines that an accompanying issue will be a lack of people to care for the old.

Meanwhile, automation in many industries is reducing the overall number of jobs available. Alongside these issues is the opioid crisis with its strong ties into spinal health.

For the old and elderly, spinal issues are the norm and increase with age. Many current spinal treatments including common surgeries simply do not work well with the elderly and have a corresponding loss of effectiveness with age. Currently, there are very few available alternative spinal treatments for the old that retain their efficacy in application. This paints a bleak picture of an aging future population

over-reliant on medication, and ultimately, costly surgical interventions with high rates of failure. Indirect technique, aka: "unwinding" is a gentle manual technique that is best applied particularly and comprehensively to joint space, particularly at the spine and ribcage. The focus on joint space rather than soft tissue/muscle/fascial manipulation, as is the norm in current manual therapy, makes the technique much more suitable for the old and elderly.

"Indirect Technique" simply stated, means that rather than pushing a bone into place, the space for it or the "path of least resistance" is specifically created where the practitioner intends for the bone to move. Performed in a comprehensive fashion, this allows for gentle and gradual spinal manipulation that ultimately may decompress neural pathways and aid in the balance and flow of cerebrospinal fluid (CSF), with its many positive implications on overall health.

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September 03-04, 2019 | London, UK

## Logical minimally invasive management of Low Back Pain

**Mark Alexander-Williams**

Schoen Clinic, UK

The management of low back pain is completely different from managing sciatica. I will discuss how to correctly differentiate between the two and describe pointers in the history and examination to discriminate between the two.

Red Flags are very poor guides when determining which patients require significant investment to prevent their low back pain becoming chronic, patients' beliefs and values are of far more influence in determining who will get better and who will not. I will discuss the evidence supporting this statement. Conservative management is often the best approach, certain technique carries supportive evidence and

certain do not, this will be discussed and evaluated. Likewise, appropriate drug management can facilitate an exercise-based approach, choosing the correct drugs is also a process that requires logic and monitoring.

Patients who fail conservative care do so for a number of reasons. There are a variety of pain generators in the back that may be driving their pain state. This will be discussed and some novel approaches in managing these pain generators will be presented, emphasizing the role of correctly performed radiofrequency denervation in correctly assessed patients.

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## Morphological asymmetry of the superior Cervical facets from C3 through C7 due to Degeneration

Nicolas Van Vlasselaer, Peter Van Roy and Erik Cattryse

Vrije Universiteit Brussel, Belgium

**Introduction:** Knowledge about facet morphology has already been discussed extensively in literature but is limited regarding asymmetry and its relation to facet degeneration.

**Method:** Facet dimensions, surface area, curvature, and degeneration of the superior facets were measured in 85 dried human vertebrae from the anatomical collection of the Vrije Universiteit Brussel. The vertebrae were analysed using the Microscribe G2X digitizer (Immersion Co., San Jose, CA) and a grading system for the evaluation of cervical facet degeneration. Coordinates were processed mathematically to evaluate articular tropism. The statistical analysis includes the paired t-test and the Pearson correlation.

**Results:** On average, no systematic differences between the left and right facets were found concerning morphology and degeneration. However, there were significant differences regardless of the side-occurrence. There was a significant correlation between the dimensions of the total facet surface and the degree of degeneration but not for the recognizable joint surface.

**Conclusions:** Facet tropism of the upper joint facets occurred often in the cervical spine but without side preference. A bigger difference in degeneration asymmetry was associated with a bigger difference in facet joint dimension asymmetry.

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## Spinal Benign Tumors treated by full Endoscopy

**Marcio R R da Cunha**

Trauma Centre, Brazil

**P**ercutaneous endoscopic technique has been used to treat disk herniation and spinal stenosis, so far we have very few reports to treat benign spinal tumors treated by this minimally invasive treatment. We would like to present some cases of lumbar benign spinal tumors removed by full endoscopic interlaminar approach. We've described 04 cases of benign lumbar spinal tumors, that were treated by full endoscopy in a period of two years. The patients had no major neurological signals, only back pain associated or not with radicular symptoms. The M.R.I demonstrated small lesions in the lumbar field measuring from 1,0 cm to 4,0 cm. We've performed all the procedures with a single skin incision less than 08 mm, placing the working canula between the interlaminar bone window, according to the level related to the lesion, making an enlargement under assistance of diamond burr to expose the ligamentum flavum from the base to the tip of the ascending facet to make a good exposition of

the surgical area. After opening the ligamentum flavum, the tumors were totally removed piecemeal under endoscopic guidance. The procedure lasted less than three hours with no support in intensive care unit and the pathological examination confirmed: 01 case of angioliopoma, 02 cases of Schwannoma and one case of neurinoma. All the patients had a hospital discharge less than twelve hours after the surgical procedure with no neurological signs and using minor pain killer to control the back pain. After one week he could return to his work under the support of physiotherapy rehabilitation. Even though we don't have so much papers about this surgical practice, we think that is a feasible treatment bringing all the benefits of the minimally invasive approach pointed in many papers. Of course it is necessary to develop more proper endoscopic tools to accelerate the surgical time.

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## Spinal problems in relation to the Os Coccyx

**Sytske Lohof-Venema**

Pelvic physiotherapy practice Overwinning, The Netherlands

**T**he coccyx is the smallest and one of the most unknown parts of the spine. But I think very interesting and very important. I will tell you something about the relation between the Spine and the rest of the body. There are often pelvic problems and problems with the Spine combined.

How can we recognize these problems and how can we work together to help the patient with Spine problems the best way. I will also tell something about the NIMOC technique, the Non-Invasive Mobilization of the Os Coccyx.

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## Fibromyalgia and Postural causes

**Roberto Amich**

“F. Trani” Institute of Salerno, Italy

**F**ibromyalgia (or fibromyalgia syndrome), is a chronic disease that causes immense physical pain and debilitating fatigue. Classified as a syndrome, fibromyalgia is not a disease, but a condition that causes many different symptoms that affect all body systems.

The main symptom of fibromyalgia is widespread musculoskeletal pain. This pain affects ligaments, tendons and muscles throughout the body. Fibromyalgia patients feel sore, stiff and overworked. Sometimes the muscles can also feel like they are burning.

Until a few years ago, even the medical community had difficulty accepting that the pain complained of was real. For years the patients were blamed, thinking that it was not a real pathology, but even caused by a possible nervous exhaustion, while it was exactly the opposite. Patients suffered from

nervous disorders due to chronic and constant pain.

It is classified as chronic widespread pain to the body. Pain can migrate to all parts of the body and vary in intensity. Patients describe pain as a pain, deep muscle pain, pulse and contraction. Most people with fibromyalgia also exhibit moderate to extreme fatigue, sleep disturbances, light, sound, sensitivity to touch and cognitive difficulties, numbness and tingling sensations in the hands, arms, feet, in the legs or sometimes in the face.

Fibromyalgia is not harmful to the body, but it can be a chronic condition that significantly compromises the quality of life, forcing the patient to make numerous pilgrimages from one specialist to another, often without any real benefit.

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# Spine and Spinal Disorders

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## Preventing development of glucocorticoid-induced Osteoporosis by cod liver oil

Amr S Elbahnasawy<sup>1,2</sup>, E R Valeeva<sup>1</sup>, Eman M El-Sayed<sup>2</sup> and N V Stepanova<sup>1</sup>

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Osteoporosis is recognized by decreased bone density and deterioration in bone structure, causing a decrease in bone strength and an increase in bone fragility and fracture problems. Glucocorticoids (GCs) are considered as one of the main reasons of the secondary osteoporosis, and the resulting fractures cause significant morbidity. fish oil can decrease bone resorption, inhibit osteoclastogenesis, and prevent bone resorption. The aim of the current work was to evaluate the role of cod liver oil in preventing bone loss and osteoporosis in glucocorticoid-treated rats. The fatty acids profile of cod liver oil was analyzed, male rats were fed balanced diet and subdivided into 3 groups, 1- normal control, 2- prednisolone control, administrated prednisolone (10 mg/kg po daily); 3- fish oil, administrated prednisolone + cod liver oil (7% w/w).

Fatty Acid analyses showed that cod liver oil contained high levels of long chain  $\omega$ -3 polyunsaturated fatty acids (PUFAs),

eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Supplementation with cod liver oil helped to improve calcium levels in plasma and suppress oxidative stress and inflammatory markers. Additionally, reduced bone resorption as reflected from the decreased levels of C-terminal telopeptide and showed significant improvement in bone mineral density and normal histological results of bone cells compared to normal and prednisolone control. Our study indicated that feeding oil rich in PUFAs such as cod liver oil was able to modulate the potential effect of prednisolone in bone loss in rats. This may occur through some intracellular pathways, involving the improvement of calcium absorption, regulation of bone metabolism and the differentiation of the osteoblast and osteoclast, suppression of oxidative stress and modulation of inflammatory response. Therefore, cod liver oil could be used as a natural approach to help in preventing bone loss associated with glucocorticoid therapy.

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