

# WFNS SPINE COMMITTEE

"Equal Spine Care for All"

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## EDITORIAL

Francesco Costa and Nikolay Peev



Dear All,

The 2022 is just ended, and a new year is just started. Usually these days are used to make some summary and reflexion, and why not good proposal. In the last year many activities were done by our Committee, ranging between several Congress, Webinar, Consensus Meeting and especially Courses (basic and Advanced Spine Courses - Africa) as described in the previous newsletters.



After the pandemic many activities are changed, but not the enthusiasm of this renewed group and the great job done under the leadership of Salman Sharif. With the 2022 under our shoulders is now time to schedule our next educational and scientific activities. May the new year bless you with health, wealth, and happiness and great success in our work.

# AN INTERVIEW WITH WORLD-RENOWNED SPINE LEADER, PROF. ALEX VACCARO

Corinna Zygourakis (USA)



Dear Colleagues and Friends,

I had the opportunity to sit down with one of the legends in Spine Surgery, Prof. Alex Vaccaro, MD, PhD, MBA, the president of the Rothman Orthopedics Institute and the Richard Rothman Professor and Chair of Orthopedics Surgery, Professor of Neurosurgery, at Thomas Jefferson University in Philadelphia, Pennsylvania. Prof. Vaccaro has over 1000 peer-reviewed publications and has served

as the president of multiple national and international spine organization. In addition to this, he is humble and accessible - a true role model to spine surgeons around the World.

**You are a man who needs no introduction. Please tell us about your path to Spine Surgery and how you became a Spine Surgeon.**

"I didn't know anything about spine surgery when I started my residency. I was accepted at the Thomas Jefferson Orthopedics surgery program, which had an incredibly high volume of spinal cord injury (SCI) patients. Drs. Jerome Cotler (Orthopedics), Jewell Osterholm (Neurosurgery), and John Dittuno (Physical Medicine and Rehabilitation) developed the center and its pathways at Thomas Jefferson. As a first year resident, I became immersed in SCI, taking care of 2-3 SCI and spinal trauma patients per day that we sent to Thomas Jefferson from multiple neighboring states. This is how I got hooked on Spine Surgery. I had a wonderful mentor Dr. Howard An, who was a spine fellow at the time that took me under his wing. Together, we operated day and night on patients with SCI and spinal trauma, and I decided this is what I wanted to do with my life."

**One of the most renowned spine surgeons in the world, you have been named the #1 spine expert in the world by Expertscape. What do you think has been the most important factor in your career success?**

"The key to my success has been excellent mentorship and coaching. I have been lucky to have fantastic mentors from the beginning of my training. The first was Dr. Leon Morganstern, a general surgeon and Chairman of Surgery, at Cedars Sinai in Los Angeles, where I did my internship. My next mentors were Drs. Jerome Cotler and Richard Rothman at Thomas Jefferson, as well as Dr. Steve Garfin at UCSD, where I did my spine fellowship. They all impressed upon me their dedication to patient care, research, and spreading the word of spine throughout the world. They embodied the values I respect most highly: they were all patient-centric, honest, hard-working, and sacrificed themselves to help other people."

**Given the impact of mentors on your career, please share with us how you approach and treat trainees.**

“My #1 priority is to always be open, available, and to listen more than I speak. I strive to never be the person that people are intimidated of. I always answer my phone and reply to all email on a timely basis, and always have my door open to speak to people. I try to be present when I’m speaking to someone, and I try not to judge.

I also distinguish between being a mentor and being a coach. A coach is someone who works to improve what a person is but does not try to mold them into someone you want them to be. When I coach great spine surgeons, I try to let them express their best selves and be who they are, while maximizing their potential. When I mentor people, it is a different process. It is more of a guiding methodology leading an individual down a path that they wish to follow and help them achieve their goals and desires as a spinal care provider. People may ask me to mentor on their goal to become an academic chair. In this situation, I will provide them with advice on the steps that are needed to make that happen.”

**On this note, what specific advice do you have for young surgeons who want to follow in your steps?**

“Focus on three things:

1) Love what you do. The most important way to find happiness and career fulfillment is to strive for a specific purpose. For example, your purpose may be to be a good community private spine surgeon, or to be an academic spine surgeon with a busy research practice. Whatever your purpose is, identify that.

2) Master what you do.

3) Find your sense of autonomy.

These tenets were beautifully described by Victor Frankl, a Holocaust survivor. If you do these three things, you will be fulfilled, and you will not regret the path you have taken.”

**What do you think are the most important recent advances in spine surgery?**

“Keep in mind that this is all coming from a 61-year-old spine surgeon! I never really enjoyed the early days of minimally invasive surgery due to its reliance on harmful radiation in identifying anatomic landmarks. I make it a point to minimize harmful environmental factors in the operating suite. Therefore, I believe surgery will evolve to be less reliant on spinal imaging requiring radiation and more on Magnetic resonance guided image navigation and robotics with neurovascular surveillance technology. Unfortunately, several of my close physician friends have developed cellular cancers in the setting of high radiation occupational exposure. This has had a tremendous impact on how I view new technologies. I now use robotic technology weekly in my surgeries, as it has revolutionized MIS surgery for me. My time instrumenting the spine in the OR has decreased significantly along with radiation exposure to staff and patient. I am loving robotics.”

**Building off these latest advances in robotics, where do you see the field of spine surgery evolving in 10 years? In 20 years?**

In 10 years, we will be using big data and AI to figure out who will benefit from spine surgery and how to minimize complications of care. Right now, I am sure we are operating on ~30% of people who don’t need surgery. And we are probably not operating on people who will benefit from earlier surgery.

I believe AI will revolutionize the field of spine surgery by showing us when we need to intervene and when we don't need to intervene. I don't know if we will be doing more or less spine surgery, but we will be doing the right surgery for the right patient at the right time.

In 20 years, I hope we can take someone who is paralyzed and bypass their abnormal circuitry to get them to walk again. At Jefferson, we are working on using implantable electrodes that bypass the SCI level, to create a closed looped feedback system that restores motor function. I believe we will also be using stem cells routinely to help fight disease."

**And finally, given that we have an international audience for WFNS, can you tell us about your experiences with spine surgery outside of the United States?**

"I have been fortunate to travel frequently and visit spinal centers throughout the world. When I was younger, I loved to travel internationally to learn the newest spine techniques due to the slower FDA approval process for new technologies in the U.S. Eventually, the US caught up with other nations in their adoption of contemporary spinal instrumentation. I now travel international-ally not to necessarily learn new techniques, but to learn the cultural differences in the management of various spinal disorders and their impact on cost and general societal acceptance. Each country has a different appetite for spend on healthcare, and it is fascinating to study each population's satisfaction with their general care and what aspects of care people like and don't like from a governmental perspective. For example, in Germany, nearly everyone gets surgery for burst fractures in the absence of a neurologic deficit, whereas in the US, most burst fractures in neurologically intact patients are treated non-operatively. Cultural preferences have a strong influence on treatment even more so than evidence-based medicine.

In addition, resources impact treatment. Systems with a lot of money tend to be more surgery-oriented, while those with less money are more non-operative. Only long-term multinational outcome studies will shed light on what works and what doesn't."

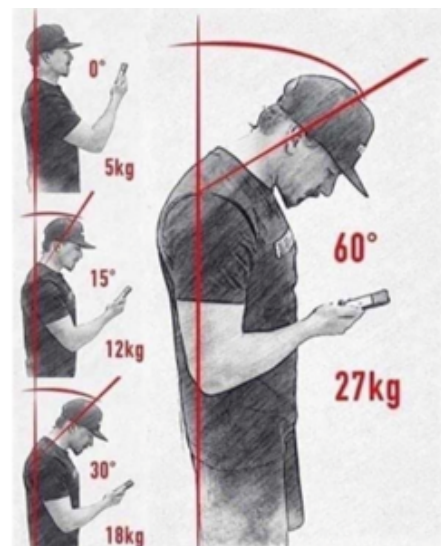
## Text-Neck Syndrome

*Francesco Costa (Italy)*

Neck pain in general is a global cause of disability. It is a public health problem that has increased remarkably nowadays. The prevalence, independent of age, is high, and equal to low back pain. Epidemiological data indicate that 73% of university students and 64.7% of people who work from home have neck or back pain. However during the last few years, a growing reporting of data is showing that the "text neck syndrome" might be considered as an emerging 21st-century syndrome. This clinical condition refers to the onset of cervical spinal degeneration that results from the repeated stress of frequent forward head flexion while we look down at the screens of mobile devices and while we "text" for long periods of time. This syndrome is affecting even more in youngs and adolescents, who, for several hours a day (from 5 to 7) and for several days a year, hunch over smartphones and personal computers more frequently than in the past.



It is estimated that 75% of the world's population is hunched over their handheld devices hours daily with their heads flexed forward, having a relevant biomechanical stresses in the cervical spine. In fact, a full-grown head weights almost 5 kg in the neutral position. The more the head is flexed, more the forces on the neck surge to more than the double at 15° (roughly 12 kg) increasing to 18.14 kg at 30° and to 22.23 kg at 45°, reaching a more than fivefold effect at 60°, arriving to a 27.22 kg. Considering the final effect it is very important for clinicians and health care providers to evaluate and properly characterize that condition trying to reduce its final effect. Prevention remain obviously the key-point of this syndrome. For example the following suggestions should be kept in mind while using smartphones or other handheld devices:



1. Avoid excessive usage and take frequent breaks.
2. Avoid prolonged static postures.
3. Position the device such that it reduces stresses both on the head/neck and the upper extremities.
4. Avoid high repetitions of movements such as prolonged typing or swiping.
5. Avoid holding large or heavy devices in one hand for long duration.

However further research is needed to improve school furniture in classrooms (chair, desk and monitor height), and about postural hygiene (knowledge and postural habits), to help improving the head flexion (HF) posture.

## Interview - Spine Committee Member

### Mirza Pojskic (Germany)



### Onur Yaman Turkey

**1) Could you please introduce yourself briefly and tell us about your subspeciality area of work in neurosurgery?**

I am Onur Yaman. I am a neurosurgeon based in Istanbul/Turkey. My subspeciality is spine surgery, especially the treatment of spine deformities.

## **2) Please tell us about your activity in the WFNS Spine Committee**

As a member of the WFNS Spine committee, we are organizing basic and advanced spine surgery courses all over the world. We also assemble cadaver courses and deformity correction workshops on 3D-models with national faculties in different cities in Turkey. In addition, we come together for a consensus meeting about various topics about spine surgery.

## **3) What are the main problems neurosurgeons in your part of the world faces?**

Spine surgery involves a wide field and, as in all over the world, there is no single solution for the management of these cases. Every country, every region or even every hospital in the same city can have a different approach to individual spine pathologies. While the physical conditions, quality of equipment and education of the staff may vary, we believe that we as the WFNS Spine Committee should provide a consensus for the most spine pathologies, so every member country has the opportunity to get the latest updates for the commonly preferred treatment standards for any case. That is why we mostly try to aim at the younger age-group of spine surgeons in our meetings and courses. As these surgeons get the basic knowledge under accepted modern international standards, they will transfer their skills to the newer generation of spinal surgeons in the future.

## **4) How do you see the future of neurosurgery? In your country and globally?**

In my opinion, after the basic practical and theoretical knowledge of general neurosurgery, an extra specialization for, as in our case, spinal surgery is needed. This subspecialization should cover every topic of spine surgery. From degenerative disc disease, to deformity surgery, from pediatric spine surgery to spinal tumor surgery, from minimally-invasive surgery to allogenic surgery. We hope that in the future nobody will ask if orthopaedics or neurosurgeons should operate on the spine. Who should do degenerative spine surgery? Who should do deformity surgery; and so on. As long as we find an interest in the wide field of spine surgery, learn the theory, the anatomy, the pathophysiology and the practical skills, it won't matter if you are an orthopaedic surgeon or neurosurgeon.

## **5) Do you have any message or advice for young residents and medical students to pursue neurosurgery?**

The area of neurosurgery is very complex and consists of a wide field of different subspecialties. Although it is very absorbing, both physically and mentally, I believe it is the most satisfactory field of medicine in the long-run. As long as the motivation is high, I strongly suggest to my younger colleagues to never stop researching and adding new skills. Modern treatment standards, especially in minimally invasive and pain treatments will have a great impact on our life in the future. Besides the classic surgeries, I believe that younger neurosurgeons should also focus on improving their skills in these fields, too.

# Interview - Spine Committee Member

**Francesco Costa (Italy)**



**Aderehime Haidara**

**Ivory Coast**

**1) Could you please introduce yourself briefly and tell us what is your subspecialty area of work in neurosurgery?**

- Professor of neurosurgery
- Head of neurosurgery department a CHU de Bouaké in cote d'Ivoire
- President of the Association of French-speaking African Surgeons (ACAF)
- Vice-president of the NGO "Hope- Esperance" children with hydrocephalus and spina- Bifida"
- Vice-president of the Continental Association of African Neurosurgical Societies (CAANS)

Subspecialties in Neurosurgery: Spine surgery (Cranio-vertebral junction surgery), pituitary surgery (endoscopic endonasal Approach)

**2. Please tell us about your activity in the WFNS Spine Committee?**

In this committee, I am involved in educational activities such as online and in-person basic and advanced spine courses and workshops for young neurosurgeons. As an African representative, I am actively involved in training courses that are held in the African continent.

Additionally, I participate in international consensus meeting that produces guideline for good practice in spine surgery.

**3. What are the main problems neurosurgeons in your part of the world face?**

LMI countries in Sub sahara Africa has been facing heavy challenges in terms of healthcare. Surgery in general and neurosurgery particularly has been left behind for many years, and often considered as expensive and luxury care.

We have the lowest ratio of Neurosurgeons to population worldwide and the lack of dedicated neurosurgical equipment and facilities remains a challenge unlike developing countries.

In addition, the access to neurosurgical care is difficult due to the absence of a health care policy and low economic income of the populations.

#### **4. How do you see future of neurosurgery in your country and globally?**

In Cote d'Ivoire, the future of Neurosurgery is bright. We have a local training program since 2005 that have produced 23 neurosurgeons with 45 actually in training. This program welcome trainees Western and Central Africa. The program also partners with the department of Human Anatomy of the University Felix Houphouët Boigny of Abidjan to open a neurosurgical skills laboratory that organized Fellowships and cadaveric workshops on a regular basis.

The neurosurgical care is available in 03 cities: Abidjan (6 million inhabitants), Bouaké (1.5 million inhabitants), and Yamoussoukro (800 thousand inhabitants).

About the workforce capacity, Ivoirian Neurosurgeons have expertise in skull base and cerebrovascular surgery, endovascular procedure, endoscopic neurosurgery, minimally invasive spine surgery, vertebroplasty and kyphoplasty. Neurosurgical care in the military opened 05 years ago and have 04 military neurosurgeons. A multi-disciplinary team composed of neurologists, radiologists, pathologists, oncologists and neurosurgeons offer a comprehensive care in neuro-oncological patients.

There is a governmental effort to increase the access of neurosurgical case. In 2023, the country will open 02 new neurosurgery departments where each one will be equipped with HD microscope, neuronavigation, neuromonitoring, c arm, endoscope, stereotactic framework, high speed drill, and an efficient intensive care unit. This comes along the implementation of a new affordable healthcare insurance for the population.

**Globally in SSA** local efforts are being made to increase the number of neurosurgeons trained locally. The initial number of 2 to 3 neurosurgeons per country, has now reached up to 10-15 neurosurgeons in most of the western and central Africa countries where neurosurgery is practiced both in public and private hospitals. This year 2022, 10 African neurosurgeons have been promoted to Associate professors.

#### **4-Do you have any message or advice for young residents and medical students who want to pursue neurosurgery?**

I congratulate and express my warm encouragements to young physicians and medical students who aspire to become neurosurgeons, especially young women. Being neurosurgeon and doing Neurosurgery is challenging but exciting. There is a bright future ahead with better training opportunities locally. They should learn and build their careers with lessons from their elder neurosurgeons



# XL Latin American Congress of Neurosurgery (CLAN 2022), Miami, Florida - 19th November 2022

## Mirza Pojskic (Germany)

On Saturday, 19th November 2022, from 08.00-11.00 a.m a preconference course on innovations and medical technologies in neurosurgery and spine surgery was held at XL Latin American Congress of Neurosurgery (CLAN), organized by WFNS Spine Committee and FLANC.



*Pre-congress course  
WFNS Spine Committee/ CLAN*



*Francesco and Mirza enjoying the view at the  
terrace of Fontainebleau hotel in Miami*

Course moderators were Francesco Costa (Italy) and Mirza Pojskic (Germany). We heard a total of 10 talks from 8 experts. Dr. Costa held a talk on intraoperative imaging based navigation in spine surgery, which was followed by Dr. Pojskic on minimally invasive robotic guided spine surgery. Dr. Zygorakis from Stanford University, USA, provided an excellent lecture on exciting technology of machine-vision guided navigation for open spine surgery, which completed the update on navigation technologies for spine surgeries. Dr. Olvera from Mexico talked on present and future trends in endoscopy in spine surgery. Dr. Costa talked on application of ultrasound in the spine surgery, and Dr. Pojskic talked on use of microscope-based augmented reality in spine surgery. WFNS Spine Committee Member from Mexico, Dr. Manuel Soto, gave a talk on technological innovations in treatment of spine tumors. Further lectures included a presentation of novel approach to minimally invasive far lateral discectomy by Prof. Fessler from Rush University in Chicago, USA, as well as a lecture from Dr. Duchon on spinal ozone and PRP injections for symptomatic lumbar herniated disc.

Following the talks, a vivid discussion followed. We have received a positive feedback from lecturers and the audience. Further collaboration with FLANC for the upcoming congresses, as well as future projects, such as initiation of basic spine courses in Central and South America for the year 2023, is planned.



*WFNS Spine Committee member from Mexico, Dr. Manuel Soto,*



*Dr. Olvera from Mexico - Use of endoscopy*



*WFNS Spine Committee member from Stanford University, USA, Corinna Zygourakis*



*Preconference course, faculty and colleagues*

## Webinars

### WFNS HOW I DO IT

#### CV JUNCTION MALFORMATION - 8th October 2022

<https://youtube.com/live/iWstY12S7Hg?feature=share>

### 2022 Joint Meeting of WFNS and CNS

2nd December 2022

# Upcoming Congress and Courses

Below we present the next scheduled events:

- KIMS International Neurosurgery Conference - 27-29th January (Karad, India)
- STNC 2022 Premeeting Course: Spine Cadaver Workshop - 8-11th February (Lome)
- Congress of Neuro-rehabilitation and 1st Latin American Congress of Neurotrauma - 4-7th April (Santra Cruz, Bolivia)
- Neurosurgery Spine Course in Africa - 27-28th June (Kinshasa)
- 18th World Congress of Neurosurgery - 6-11th December (South Africa)
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## Upcoming Recommendations of Spine Committee

Dear Reader,

The following recommendations (and correlate papers) will be published in 2023 by the Spine Committee:

- Back Pain
- Lumbar Disc Herniation
- Cranio-Vertebral Junction Pathologies+
- Spine Tumor

We would like to remind you that all of the papers of previous Recommendations are open access. The specific recommendations of the spine committee can be found on the website of WFNS:

**<http://wfns-spine.org/recommendations>**



# WFNS SPINE COMMITTEE

## 2021-2023

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