



Spine Fellowship Program at FOCOS Orthopedic Hospital



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Welcome!

It is our pleasure to introduce you to our Spine Fellowship at the FOCOS Orthopaedic Hospital: The Spine Fellowship is committed to advancing the science and profession of orthopaedics and neurosurgery through medical education and clinical research and training. The FOCOS Orthopaedic Hospital is at the forefront of providing state of the art spine education and training under the leadership of its founder, Dr Oheneba Boachie-Adjei who has been instrumental in training hundreds of spine surgeons around the globe. It has been his objective to enhance capacity building and professional development in West Africa. FOCOS Orthopaedic Hospital has gained the respect both nationally and internationally managing both adult and paediatric spine reconstruction and deformity.

The Fellowship

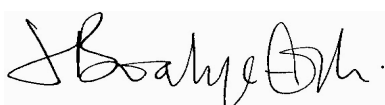
The Spine Fellowship, which is the first of its kind in West Africa, will be directed by the world renowned spine surgeon Dr Oheneba Boachie-Adjei supported by a local and internationally acclaimed volunteer faculty of spine surgeons. The eighteen month curriculum of the Spine Fellowship offers comprehensive exposure to adult and paediatric surgical spine treatments and procedures including degenerative and arthritic conditions, infections, tumours, metabolic diseases, trauma, and fractures, and complex deformities and injuries to the spine. This program is geared toward the orthopaedic or neurosurgeon who is interested in building a foundation for treating the whole range of surgical spine conditions through the use of the most advanced methods and approaches.

Our Graduates

Upon completion of the Spine Fellowship, graduates will be amply prepared to build surgical practices, focus more deeply on research, and be able to teach at academic medical centres and hospitals wherever they settle.

We hope that as you plan your future, that you consider closely our standard-setting care, and all the resources that our program has to offer.

Sincerely,



Oheneba Boachie-Adjei, MD
Surgeon-In-Chief, FOCOS ORTHOPAEDIC HOSPITAL

About FOCOS Orthopaedic Hospital

FOCOS (Foundation of Orthopaedics and Complex Spine) is a non-profit organization, established in 1998 by Dr. Oheneba Boachie-Adjei in the United States and in Ghana-West Africa. FOCOS' mission is to provide comprehensive, affordable orthopaedic and spine care to those who would otherwise not have access to such treatment. In particular, FOCOS seeks to enhance access to optimal surgical and non-surgical care for patients with disabling musculoskeletal disorders, including complex spine deformities and paediatric orthopaedic problems in undeserved regions. In 2012 the FOCOS Orthopaedic Hospital opened its doors in Accra, Ghana to offer optimum quality care and services to patients in need. Since its inception, FOCOS has performed more than 3,000 complex spine and orthopaedic surgeries and has treated over 50,000 patients

Spine Service

With over 300 cases per year, the Spine Service focuses on a wide range of treatments, including laminectomies, laminotomies, anterior cervical disectomies and fusions, as well as more technically challenging major reconstructive procedures requiring standard osteotomies, pedicle subtraction osteotomies, and posterior and anterior vertebral column resections. Fellows are exposed to the highest standard of patient care. The hospital currently has the largest volume of complex paediatric deformities treated with prolonged tension based Halo gravity traction dual rod instrumentation, with limited fusion for treatment of progressively early onset scoliosis and complex definitive reconstructive techniques.

FOCOS Orthopaedic Hospital is a recognized world and national leader in the treatment of spine deformity, as well as education, training,

and research, and continues to advance techniques for the treatment of complex spine deformities. The lead surgeon and volunteer surgical faculty are members of the Scoliosis Research Society, the North American Spine Society and the West Africa College of Surgeons and are nationally and internationally recognized for their work in clinical and research activities.

Patient-Derived Outcomes Assessment

Physicians and surgeons are evaluating clinical outcomes of early onset scoliosis, complex spine deformities and other conditions, to understand their benefits, in terms of speed of a return to function and quality of life.

Registries

The Service maintains its participating in a multi-centre study group of clinical projects in adult and paediatric spine deformity

The Spine Fellowship

During this 18 month-long program, two Fellows (one junior and one senior) shall develop in-depth experience in the surgical and non-surgical management of complex spinal disorders of the cervical, thoracic and lumbar spine. This includes trauma, tumours and degenerative diseases in adults, children, and spinal deformity. The primary goal of the Spine Fellowship is to expose and train Fellows in a wide range of treatments from the most complex to the most common degenerative conditions and sports-related injuries. Each Fellow shall work closely with four Attending surgeons as well as Residents, and medical students from both Ghana and West Africa assisting in the diagnosis, treatment, and management of a multitude of conditions affecting the spine including:

- Cervical Degenerative Disease
- Lumbar Degenerative Disease
- Complex Cervical Deformity
- Complex Thoracic and Lumbar Deformity
- Neurologic Deficits
- Trauma and Tumour
- Sports-Related Spine Injuries
- Minimally Invasive Surgery of the Spine
- Pain management via Epidural and facet injections with the anaesthesia team
- Adult and Paediatric Scoliosis
- Adult and Paediatric Kyphosis
- Adult and Paediatric Salvage Reconstruction
- Spondylosis and Spondylolisthesis
- Sports-Related Spine Injuries

Rotations

The Fellowship years provide Fellows with a core competency in the major aspects of spine surgery and treatments of spine degeneration, deformity, trauma, and tumour. These rotations are designed to broaden a Fellow's base of knowledge across all elements of spine. During training period, the Fellows would see a broad variety of spine conditions in a one-on-one mentorship environment where a Fellow is exposed to a range of methods, techniques, approaches and management of multiple issues of the spine.

Day-to-Day

Time is divided equally between OPD and operating room with additional time allocated for research.

Skills Development

The Fellow will: analyse that area's literature and synthesize learning into everyday practice, conceptualize difficult problems, assess care options, and learn to treat a wide variety of common and rare spine conditions with independence. Fellows will develop and enhance their skills of evaluating spine disorders, developing a rational approach for care, and organizing and executing treatments for a diverse array of clinical problems. He or she will also cultivate skills of patient evaluation and management.

Weekly and Monthly Academic Conferences

Weekly academic conferences are part of the CME-accredited program where unique and complex cases are presented and discussed and tutorials occur between Fellows and some of the Hospital's most experienced surgeons. Members of the faculty attend these conferences, and Fellows are required to participate and often lead discussions. On a monthly basis, the conference focuses on mortality and morbidity cases as well as other interesting cases. Fellows also participate in monthly journal clubs. Yearly, a Distinguished Lectureship in Spine Surgery is held featuring an international leader in spine.

Academic Career Training

In addition to clinical care and research, Fellows develop strong teaching and organizational skills necessary to participate in an academic career. To this end, Fellows work closely with Residents on the Service to coordinate patient care. The Fellows, along with an Attending Surgeon would conduct monthly sessions in psychomotor skills to instruct Residents and Physician Assistants in operative techniques. Fellows also prepare literature for these sessions. Techniques running a practice are taught by observing attending's during office hours and through a series of practice management sessions.

Research

In addition to a robust clinical experience, Fellows will build upon their existing research skills with extensive exposure to research methodology, study design and critical data review. Each Fellow in the Program is required to complete at least one research project during their academic years, though some complete more. Fellows meet regularly with the assigned research mentor to design their research project and review milestones during the year. Fellows present their progress to their Service, and also attend a series of research lectures organized by the Academic Training Department, Fellows are also encouraged to attend and present research at national and international academic meetings.

Facilities

The Hospital is currently undergoing an exciting period of growth and physical expansion. In order to enhance the Spine Fellow's clinical, educational and research experience, they will have access to the Hospital's state-of -the-art facilities, including the following:

Boachie Library & the FOCOS Library:

Located at the FOCOS guest house; the library is a medical library with emphasis on musculoskeletal medicine. The library's collection includes print and electronic journals on Orthopaedics, Textbooks and Monographs through cooperative agreements,

American Academy of Orthopaedic Surgery, the Hospital for Special Surgery and Weill Cornell Medical College; our Fellows have full access to these additional world-class biomedical research libraries online.

FOCOS Community

Upon entering the Spine Fellowship Program, participants become an integral part of the community around them. Immersed in all aspects of their area of concentration, they build strong ties to other Fellows and with each Program's faculty members. Upon completion of their Fellowship years, graduates are prepared to take their talents and expertise to academic medical centres and hospitals wherever they choose to practice, Fellows also serve as important members of the FOCOS community at large through close collaboration with physician assistants, nurses, and other members of the care team, as well as the Hospital's research staff. Moreover, through FOCOS affiliation with HSS Healthcare System and Weill Cornell Medical College, Fellows have the opportunity to tap into this rich academic and scientific community located in New York City.

Living in Accra, Ghana

Accra can be described as a cultural melting pot and can quickly become home to literally anyone (Ghanaian or other) who identifies with the city. With a population of about five million people and spread along the Atlantic coast, the city is endowed with luxury as well

as great value, hotels, excellent restaurants, local eateries and night clubs. Public transport consists of buses and tro-tro (mini-buses); alternatively there are taxis, which are affordable (\$5-\$10) per destination and safe. Good rental accommodation is generally easy to find; advertisements are displayed in the Daily Newspapers (properties advertised this way usually belong to corporations and no agents are involved). Prospective tenants should expect to 1-2 years rent upfront, this is however negotiable.

Academic Training Department at FOCOS

The vision of FOCOS Academic Training is to educate innovative and outstanding physicians through graduate medical education training programs to be academic leaders in musculoskeletal clinical care, research and teaching. The Academic Training Department, works closely with the Fellowship Program Director to ensure that each Program meets its mission. Academic Training also maintains a periodic evaluation process that includes all of the program stakeholders. The Department is also responsible for ensuring that each Fellowship Program is held to the universal policies and procedures established by the multi-disciplinary Fellowship and Graduate Medical Education (GME) committees.

Compensation (Stipend, Housing, etc.)

With local government support Ghanaian Fellows are provided a stipend and benefits based on the costs of living in Accra-Ghana, competitive with those of other institutions. In addition, Fellows will be put in touch with a Human Resource Coordinator, who is available to assist Fellows who are interested in obtaining housing. Foreign fellows should obtain a grant or sponsorship from their home country or organization to cover travel, and salary.

We invite highly recommended applicants with demonstrated mastery of clinical and research skills that have been developed in strong residency programs in orthopaedics or neurosurgery to apply. Candidates must show leadership potential, have performed well in graduate medical exams, possess strong social and communication skills and a capacity to thrive in a rigorous and demanding environment. To apply to The Spine Fellowship, please download our online applications. For more information, please contact the Academic Office by phone on:

+233 59 692 0901 ext 134 and via email at academics@focosgh.com



Our new Children's' Ward

Our Faculty

Prof. Oheneba Boachie-Adjei



Oheneba Boachie-Adjei, MD

Surgeon-In-Chief, Director, Spine Service

Professor Emeritus of Orthopaedic Surgery at Weill Cornell Medical College and an Attending Orthopaedic Surgeon, specializing in paediatric and adult spine deformity. In 1998, he established F.O.C.O.S and completed construction on a 70-bed hospital in Ghana.

He is the president of FOCOS and CEO of FOCOS Hospital. He received his Doctor of Medicine degree from Columbia University and completed an Orthopaedic residency at the Hospital for Special Surgery in New York. He was a John H Moe Fellow at the Twin Cities Scoliosis center. In 1995 he was appointed Chief of the Scoliosis Service at the Hospital for Special Surgery, a position he held for 20 years.

He receives on regular basis throughout the year, a team of surgeons and other medical professionals who travel to Ghana to assist and participate in the training of fellows. His research includes investigations into clinical outcomes in scoliosis surgery. He has published extensively and lectured internationally on pioneering reconstructive spine deformity procedures in paediatric and adult patients.

In 2004, he received the Humanitarian Award from AAOS. He has received numerous awards from the Scoliosis Research Society, and was elected President of SRS in 2008-2009. He was featured in the Discovery channel documentary entitled, "*Surgery Saved My Life in 2006* and on CNN's African Voices documentary as the Ghanaian Doctor transforming Spine Surgery in Ghana in 2015. He has won several awards, local and international and in 2017 alone, he won seven more international awards of which two were humanitarian and three philanthropic.

Dr. Boachie-Adjei has published and lectured extensively on spine surgery, with special emphasis on surgery to correct spine deformity. He is also an inventor who holds several patents for devices used in spine surgery.

He is married to Hilda Boachie-Adjei and they have three sons Kwadwo, Yaw and Kwame Boachie-Adjei.



Mawuli Ametepe MD

Dr. Mawuli Kwami Ametepe completed basic medical training in July 2003 from the University of Ghana Medical School Accra. He wrote and successfully passed the Ghana College of Physicians and Surgeons' examination in March 2009 and was fully inducted into West African College of Surgeons Fellowship on 15th March 2013. Dr. Ametepe has been working with FOCOS since 2009, after joining the Neurosurgical team. He loves working on the spine especially anterior and posterior approaches to the cervical spine and performs a lot of degenerative spine surgeries.



Harry Akoto. MD

Dr. Harry Akoto is a Neurosurgeon at the Korle-Bu teaching hospital and the FOCOS Orthopaedic Hospital. He had his basic medical education at the University of Ghana Medical School where he graduated in 1998. He proceeded to undertake residency in Neurosurgery after one year of internship and after graduating in 2007, he received a gold award for Academic excellence from the West African College of Surgeons (WACS). He has been closely affiliated with the FOCOS group during his residency years and worked as a volunteer as well. After spending time on the spine service in the William Beaumont Hospital in Royal Oak, Michigan, he was awarded the GLOBUS spine fellow for 2009 allowing him to spend extra time in William Beaumont Hospital and the Rush University Hospital in Chicago, Illinois. He returned to Ghana and has continued to be involved in teaching at the Korle-Bu Teaching Hospital and has responsibility of teaching medical students and surgical residents. He also is a part-time lecturer at the University of Cape Coast School of Medical Sciences. He has a passion for degenerative conditions of the spine and also performs very complex brain surgeries. He has given many presentations on major international platforms.

Irene Wulff



Irene Wulff MD

A seasoned specialist in Anesthesia, Dr. Wulff has over fifteen years unparalleled experience in the field of anesthesia. She has trained and mentored seasoned anesthesiologists for the country.

Dr. Irene Adorkor Wulff is currently the Medical Director and Chief of Anesthesia at the FOCOS Orthopedic hospital in Ghana. She is a product of Achimota School in Accra Ghana and graduated from the University of Ghana Medical School in 1997, and went on to receive a diploma in anesthesia in 2001. She completed her residency in anesthesia at the Korle-Bu Teaching Hospital and became a fellow of the West African College of Surgeons in 2006.

Dr. Wulff worked in the Department of Anesthesia of the Korle-Bu Teaching Hospital for 18 years. During these years she was one of the most vibrant and dynamic consultants in the hospital and participated in many high level and risky surgeries including renal transplants, liver resections, adrenalectomies and brachytherapy for Cancer of the Prostate. At Korle Bu, Dr Wulff was in charge of anesthesia for neurosurgery and played a key role in the management of complex adult and pediatric neurosurgical cases including complex spine surgeries, craniotomies (including awake craniotomies.). She was also actively involved in the care of patients in the Intensive Care Unit (ICU) and was the in charge physician of the ICU for a 2 year period. As a member of the ICU committee she prepared and supervised the implementation of protocols for patient management and critical anesthetic incidents.

Dr Wulff became involved in the FOCOS surgical program at the Korle Bu teaching hospital 2008 and was in charge of organizing anesthesia for surgeries. As the chief of anesthesia since joining the full time faculty of the FOCOS hospital in 2014, she has continued to play the role of organizing anesthesia for surgeries, managing the ICU, as well as the peri-operative services in the hospital. This has included the detailed preoperative preparation, complex intra-operative management and the postoperative care of these patients, many of whom require intensive care. To date, she has been responsible for the peri-operative care of over 1000 complex spine and orthopedic procedures.

Dr Wulff is considered the most experienced in the nation and perhaps in the West Africa sub-region in the administration of Total Intravenous Anesthesia (TIVA) for intra-operative neuro-monitoring in major spine deformity reconstruction.

Her interests are intensive care, blood conservation, post-operative pain management and resident education and training.

Prof. Adu-Gyamfi



Prof Adu-Gyamfi MD, FFARCS, FRCA, FWACS, FGCP&S

Professor Yaw Adu-Gyamfi was one of the first set of medical students (the pioneers) of the University of Ghana Medical School.

He is a Consultant and Professor of Anaesthesiology and Critical Care and has 39 years of teaching experience. He is former head of Department Anaesthesiology and Critical Care, University of Ghana Medical School. He taught at the College of Medicine and Medical Sciences, King Faisal

University, Dammam, Saudi Arabia, and was, for 14 years, the Head of Department of Anaesthesiology as well as the only non-Arab foreigner on the Saudi Council for Medical Specialties that started post graduate medical education in anaesthesia in the Kingdom.

He worked, off and on, as a consultant, at the Central Hospital in Vestras, Sweden, during his vacations for 33 years. This is a teaching hospital affiliated with the Uppsalla University Teaching Hospital and medical school for postgraduate medical training.

Prof Adu-Gyamfi was part of the group that advocated for the setting up of Ghana Postgraduate Medical College, now Ghana College of Physicians and Surgeons. He was the founding Chairman of the Faculty of Anaesthesia, a Founding member of the Executive Council and served on the College Council. In recognition of his various contributions he has been honoured with an award for outstanding achievements in Post Graduate Medical Education at the 10th Anniversary AGSM of the College, in December, 2013.

He once held the positions of President of Ghana Medical Association and President of the Ghana Anaesthesia Society. He served on the Civil Service Council of Ghana, Population Council and the Ghana Aids Commission.

He currently teaches on part time basis at University of Ghana Medical School, is a consultant at FOCOS Hospital, and is supporting the inception of the physician assistants' anaesthesia training program at the University of Allied Health Sciences, Ho, in the Volta Region of Ghana.

Professor Adu-Gyamfi is happily married to Dr. (Mrs.) Mokowa Adu-Gyamfi and they have grown up children.

Kwadwo Poku Yankey



Kwadwo Poku Yankey, MD

Dr. Kwadwo Poku Yankey is a consultant Neuro-Orthopaedic Surgeon. He completed his Neurosurgery fellowship with the West African College and Surgeons (WACS) in 2014 and undertook Fellowship training in Spine and Spine Deformity Surgery in 2015 under Prof. Oheneba Boachie-Adjei. He is

a member of the FOCOS Spine Research Study Group and is involved in numerous ongoing spine deformity studies. He has research interest in sagittal alignment and neurological outcomes following complex spine surgeries. His main hobby is football: He is an ardent supporter of locally based Sekondi Hasacas Football club in Ghana.

Spine Curriculum

SECTION I: General Considerations

1. The evolution of Spine Surgery since the Second Edition of The Textbook of Spinal Surgery
2. Spinal Cord and Nerve Root Monitoring
3. Bone Grafting and Spine Fusion
4. Medical Complications in the Adult Spinal Patient
5. Trunk Range of Motion and Gait Considerations in Patients with Spinal Deformity

SECTION II: Biomechanics

6. General Considerations of Biomechanical Testing
7. Basic Pedicle Screw and Construct Biomechanics
8. Biomechanics of Three-Dimensional Scoliosis Correction
9. Treatment Considerations and Biomechanics of the Lumbosacral Spine
10. Normal Spinal Anatomy: Normal Sagittal Plane Alignment

SECTION III: Anatomic Approaches

11. "Microscopic" Approach to the Posterior Lumbar Spine for Decompression
12. Minimal Access Techniques Using Tubular Retractors for Disc Herniations and Stenosis
13. Anterior Cervical Approaches
14. Jaw-Splitting Approaches to the Upper Cervical Spine
15. The Modified Anterior Approach to the Cervicothoracic Junction
16. Trans-sternal Approaches to the Spine
17. Anterior Exposure of the Thoracic and Lumbar Spine Down to L4
18. Anterior Approaches to the Distal Lumbar Spine and Sacrum
19. Direct Lateral Approach to the Lumbar Spine

SECTION IV: The Cervical Degenerative Spine

20. Cervical State of the Art
21. Evaluation of Axial Neck Pain. Who is a Surgical Candidate and Who Isn't: How to Manage the Non Operative Treatment, How to Work Up the Pathology
22. Cervical Radiculopathy: Clinical Evaluation and Non Operative Treatment
23. Cervical Spondylosis and Radiculopathy
24. Cervical Myelopathy
25. Occipitocervical and Atlantoaxial Methods Methods of Fusion: C1-2 Fixation, Harms Screw, Magerl Screw, Wiring
26. Anterior Decompression, Instrumentation, Fusion Techniques: Corpectomy, Strut Grafting
27. Anterior Decompression, Instrumentation, Fusion Techniques: Disectomy, Foraminotomy, Disc Space Carpentery
28. Anterior Cervical Plating
29. Indications and Techniques for Transoral and Foramen Magnum Decompression
30. Subaxial Posterior Decompression and Fusion Techniques
31. Subaxial Posterior Foraminotomy
32. Subaxial Posterior Laminoplasty and Laminectomy
33. Subaxial Posterior Lateral Mass Fixation
34. Subaxial Cervical Pedicle Screw Fixation
35. Revision Cervical Spine Surgery
36. Cervical Disc Arthroplasty
37. Thoracic and Lumbar Degenerative Disorders (State of the Art)
38. Evaluation of Thoracic and Lumbar Axial Back Pain
39. Evaluation of Thoracic and Lumbar Radicular Pathology - Who is a Surgical Candidate and Who Isn't
40. Use of Discography to Evaluate Lumbar Back Pain with an Eye toward Surgical Treatment
41. Surgical Treatment of Lumbar Disc Herniation
42. Surgical Treatment of Lumbar Spinal Stenosis
43. Revision Laminectomy: Indications and Techniques
44. Strategies and techniques for Dural Repair
45. When to Consider ALIF, TILF, PLIF, PSF, or Motion-Preserving Techniques
46. Motion-Preservation Techniques (Other Than Disc Arthroplasty)
47. Transforaminal Lumbar Interbody Fusion/Posterior Lumbar Interbody Fusion
48. Anterior Lumbar Interbody Fusion Techniques
49. Minimally Invasive Posterior Surgery for the Lumbar Spine
50. Total Disc Replacement: Concepts/- Design Strategy/Indications/Contraindications/ Complications
 1. Total Disc Replacement – Maverick
 2. Lumbar Total Disc Replacement: CHARITE Artificial Disc
 3. Total Disc Replacement: ProDisc
51. Revision Lumbar Spine Surgery
52. Complications of Lumbosacral Spine Surgery
53. The Future: Disc Regeneration and Other Technologies
54. Posterior Dynamic Stabilization
55. Thoracic Disectomy
56. Thoracic Stenosis

SECTION VI: Spondylolisthesis

57. Spondylolisthesis: Introduction
58. Wiltse and Marchetti/ Bartolozzi Classifications of Spondylolisthesis – Guidelines for Treatment
59. Sacro-Pelvic Morphology, Spino-Pelvic Alignment, and the Spinal Deformity Study Group Classification
60. The Natural History of Spondylolisthesis
61. Pars Repair
62. 1. Low-Grade Spondylolisthesis in Children and Adolescents
62. 2. Low-Grade Spondylolisthesis in Adults: Surgical Management
63. Adult Degenerative Spondylolisthesis Without Lysis
64. High Grade Spondylolisthesis: Fusion In Situ
65. High Grade Spondylolisthesis: Partial Reduction
66. High Grade Spondylolisthesis: Posterior Decompression and Spanning/Dowel Fibula
67. High Dysplastic Spondylolisthesis: Anatomic Reduction. The Harms/Shufflebarger Technique
68. Reduction of High-Grade Spondylolisthesis: The Edwards Technique
69. The L5 Vertebrectomy Approach for the Treatment of Spondylolisthesis with Reduction of L4 onto S1
70. Complications of Spondylolysis/ Spondylolisthesis Surgery

Volume II

SECTION VII: Idiopathic Scoliosis

71. Introduction to Adolescent Idiopathic Scoliosis
72. Natural History Including Measures of Maturity
73. Clinical Assessment and Parent-Patient Expectations
74. Spinal Deformity Outcomes Measurement
75. Radiographic Classification Scheme: Lenke Classification
76. Fusionless Surgery and Growing Rod Techniques for Infantile and Juvenile Idiopathic Scoliosis
77. Stapling Techniques
78. Open and Thoracoscopic Anterior Thoracic Surgery
79. Thoracoplasty
80. Evolution of Instrumentation for Adolescent Idiopathic Scoliosis
81. Short Segment “Bone-on-Bone” Fusion for Adolescent Idiopathic Scoliosis
82. Posterior Spinal Deformity Correction Techniques
83. Anterior Lumbar and Thoracolumbar Correction and Fusion for AIS
84. Treatment of Thoracic Scoliosis
85. Selective Thoracic Fusion
86. Complications Associated with Adolescent Idiopathic Scoliosis Surgery

SECTION VIII: Adult Spinal Deformity

87. Adult Spinal Deformity – Introduction/State of the Art
88. Adult Spinal Deformity Classification
89. De Novo Scoliosis
90. Sagittal Imbalance
91. Fixed Coronal Imbalance of the Spine: Clinical Significance and Operative Management
92. Spinal Deformity in the Older Patient With Kyphosis
93. Revision Surgeries for Adult Spinal Deformity
94. Smith-Peterson Osteotomy of the Spine
95. Pedicle Subtraction Procedures for Complex Spinal Deformity
96. Vertebral Column Resection for Complex Spinal Deformity: Posterior Approach
97. Vertebral Column Resection for Complex Spinal Deformity: Anterior and Posterior Approach
98. Minimally Invasive Deformity Surgery: Future Directions
99. Fusion to the Sacrum and Fixation Techniques of the Sacropelvic Junction.
100. Structural Grafting for Adult Spinal Deformity

SECTION IX: Dysplastic and Congenital Deformities

101. Introduction/State of the Art in the Care of Dysplastic and Congenital Spine Deformities
102. Dysplastic Scoliosis: Neurofibromatosis Spinal Pathology
103. Spinal Deformities in Marfan Syndrome
104. Spinal Deformity in Skeletal Dysplasia Conditions
105. The Spine in Osteogenesis Imperfecta
106. Spinal Deformity in Familial Dysautonomia
107. Congenital Scoliosis
108. Hemivertebra Resection
109. Congenital Intraspinal Anomalies: Spinal Dysraphism – Embryology, Pathology and Treatment
110. Thoracic Insufficiency Syndrome
111. Congenital Anomalies of the Cervical Spine in Children: Management of Segmental Instability and Spinal Canal Encroachment

SECTION X: Paralytic Deformity

- 112. Introduction/State of the Art in the Care of the Paralytic and Neuromuscular Scoliosis
- 113. Paralytic Scoliosis and the Spastic Patient
- 114. Surgical Treatment of Flaccid Neuromuscular Scoliosis
- 115. Surgical Treatment of Myelomeningocele Deformities
- 116. Management of Paralytic Neuromuscular Disorders with an Emphasis on Pelvic Obliquity
- 117. Role of Halo Traction and Halo-Femoral Traction in Paralytic/Neuromuscular Scoliosis

SECTION XI: Kyphosis and Postlaminectomy Deformities

- 118. Introduction and Current State of the Art
- 119. Cervical Instability and Kyphosis (Rheumatoid, Dwarfism, Degenerative, Others)
- 120. Surgical Treatment of Scheuermann's Kyphosis
- 121. Short-Segment Anterior Fusion of Symptomatic Scheuermann's
- 122. Postlaminectomy Deformities in the Thoracic and Lumbar Spine
- 123. Post-traumatic Deformity
- 124. Ankylosing Spondylitis /Thoracolumbar Deformities
- 125. Cervicothoracic Extension Osteotomy for Chin-On-Chest Deformity
- 126. The Role of Osteotomies in the Cervical Spine

SECTION XII: Trauma

- 127. Trauma State of the Art
- 128. Classification of Cervical Spine Injury
- 129. Classification of Thoracic and Lumbar Fractures
- 130. Surgical Management of Cervical Spine Fractures
- 131. Anterior and Posterior Instrumentation Techniques Used in the Thoracic Spine for Treatment of Fractures
- 132. Surgical Treatment of Thoracolumbar and Lumbar Fractures
- 133. Anterior Decompression Techniques for Thoracic and Lumbar Fractures
- 134. Minimal Access Techniques for Spine Trauma
- 135. Management and Surgical Treatment of Fractures of the Lumbosacral Region and the Sacrum
- 136. Novel Approaches to Neural Repair and Regeneration After Spinal Cord Injury

SECTION XIII: Tumor and Osteomyelitis

- 137. Introduction and State of the Art
- 138. Benign Tumors of the Spine
- 139. Primary Malignant Tumors of the Spine
- 140. The Surgical Treatment of Metastatic Spine Disease
- 141. Intramedullary Spinal Cord Tumors
- 142. Intradural, Extramedullary Spinal Tumors
- 143. Spinal Vascular Malformations
- 144. Spinal Infection/Osteomyelitis
- 145. Tumors of the Sacrum
- 146. Adjuvant Therapy of Spinal Tumors

SECTION XIV: Complications

- 147. Introduction/State-of-the-Art
- 148. Neurological Complications
- 149. Reconstruction of Complex Spinal Wounds
- 150. Vascular Complications
- 151. Postoperative Early and Late Wound/Implant Infections
- 152. Cerebrospinal Fluid Fistula and Pseudomeningocele
- 153. Pseudarthrosis in Spinal Deformity Surgery
- 154. Legal Implications and Strategies
- 155. Unresolved Postoperative Spine Pain
- 156. Medical Complications Associated with Spinal Surgery

Reading Material

Benzel's Spine Surgery: Techniques, Complication Avoidance & Management. Volume set

Edward C Benzel

Moe's Textbook of Scoliosis and Other Spinal Deformities

Textbook by John H. Moe

Atlas of Spinal Diseases First Edition

by Peter G. Bullough (Author), Oheneba Boachie-Adjei (Author)

Textbook of Spinal Surgery. Author(s): Keith H. **Bridwell** MD, Ronald L. DeWald MD.

Fellows TimeTable

Monday	0730	Daily Ward rounds
	0800	Clinical meeting with quick discussion of previous week theatre cases
	0900	Spine Clinic-quick discussion of theatre cases for the week
	1600/1700	End of clinic
Tuesday	0730	Daily Ward rounds
	0800	Clinical meeting with pre-op case discussions
	0800	Clinical meeting with discussion of previous day cases for theatre
Wednesday	0730	Daily Ward rounds
	0800	Clinical meeting with discussion of previous day cases for theatre
	0900	Theatre until 1600-1800
Thursday	0730	Daily Ward rounds
	0800	Clinical meeting with discussion of previous day cases for theatre
	0900	Extensive Ward rounds/Research
	1300	One hour executive meeting with your supervisors, please show up with your log book at the end of every month
Friday	0730	Daily Ward rounds
	0800	OPD for Spine clinic with Dr. Yankey every other week
	0900	Extensive Ward rounds/Research

Syllabus

- Cervical Degenerative Disease
- Lumbar Degenerative Disease
- Complex thoracic and Lumbar Deformity
- Neurological Deficits
- Pain management via Epidural and facet injections with anesthesia team
- Adult and Pediatric Scoliosis
- Adult and Pediatric kyphosis
- Adult and Pediatric Salvage Reconstruction
- Spondylolysis and Spondylolisthesis
- Spine Trauma and Tumor
- Clinical Research

Fellowship Period	_____ to _____									
Supervisor	Prof. Oheneba Boachie-Adjei		Signature of supervisor							
Venue	FOCOS Orthopedic Hospital, 8 Teshie Street, Pantang, Accra-Ghana									
No	Date	Patient Initials	Country	Age	Sex	Diagnosis	Procedure	Surgeon	Role	Comment

Enquire from the Academic Coordinator for a copy of your Logbook