COMPREHENSIVE NEUROSURGICAL SPINE AND PAIN ELECTIVE

Introduction

Spine related pain is an extremely frequent and challenging phenomenon. It is also a significant cause of morbidity and disability with steadily increasing tendency in our population. Neurosurgical spine entities include:

1. Degenerative disorders of the intervertebral discs and facet joints
2. Acute spine and spinal cord injuries
3. Infections
4. Primary and secondary spine tumors, intradural and intramedullary tumors
5. Spine deformities
6. Inflammatory disorders such as rheumatoid arthritis, ankylosing spondylitis
7. Developmental afflictions

The clinical exam and management of these disorders is often complex and necessitates an interdisciplinary approach, involving neurosurgeons, pain specialists, physiatrists, and neuroradiologists. For this reason this comprehensive elective is composed of two parts:

I. Spine surgery elective (6 weeks)
II. Pain medicine elective (6 weeks)

I. SPINE SURGERY ELECTIVE

Goals:

1. To introduce the trainee to the clinical evaluation of patients with complex spine problems
2. To understand the sensitivity, specificity, negative and positive predictive value of various diagnostic tests used in the diagnosis of discogenic pain and facet joint syndrome

3. To familiarize the trainee with different approaches to the spine, types of instrumentation
4. To improve the understanding of the utility of specialized perioperative tools such as the monitoring of somatosensory evoked potentials, motor evoked potentials, and electromyography
5. To introduce the trainee to the philosophy of interdisciplinary spine management by participating on the monthly Spine Meetings
6. To explain the fundamental role of the patient registry for quality control and clinical research the trainee will be introduced to the Spine Tango registry

II. PAIN MEDICINE ELECTIVE

Location: UTHSCSA Pain Clinic (UT Medicine Pain Consultants: Westgate Medical Center and St. Luke's Medical Center Tower 2). The Pain Medicine Program at UTHSCSA is a multi-disciplinary clinic dedicated to the treatment of persistent pain. Multidisciplinary care plans are created to include Physicians, Nurses, Psychologists, Physical and Occupational Therapists. Treatment is both interventional and conservative. Close cooperation between disciplines is used to educate the patient and re-conceptualize their attitude to the management of pain.

Goal: To provide the opportunity for the fellow to learn about chronic pain evaluation and management

Preceptor: Somayaji Ramamurthy, MD, Professor of Anesthesiology Somayaji@uthscsa.edu

Experience: The fellow will work with Drs. Eckmann, Mitchell, and Ramamurthy in the clinic and also attend Pain Medicine Grand Rounds or other AM learning topics

	Pain Medicine Competency					
Pain Clinic Competency Based Objectives	**Patient and Family care**	**Medical Knowledge**	**Practice-based Learning and Improvement**	**Interpersonal and Communication Skills**	**Professionalism**	**Systems-Based practice**
To understand the clinical manifestations of persistent pain		x				
To gain an understanding of the various pharmacological therapies for persistent pain						
To understand the spectrum of treatment modalities and their appropriate use and side effects	x					
To learn how to appropriately consult members of the multidisciplinary pain management team	x					
To know the indications for obtaining x-rays and /or MRI etc in patients with persistent pain syndromes	x					
To demonstrate competency in performing a comprehensive assessment of patients with chronic pain			x			
To learn to conduct an effective discussion with patients with persistent pain, including patient education and counseling			x	x	x	
Knowledge of the pathophysiology of pain	x	x				
Understanding of the psychosocial and medical sequelae of chronic pain.	x	x				
Skill in utilizing psychotherapeutic and other modalities in pain treatment.				x		
Knowledge of pharmacologic treatment of pain, including adverse effects, issues surrounding misuse and fear, and regulatory issues			x		x	x
Understanding of the indications and utility of specialized interventional techniques to control pain	x	x	x			

Evaluations:

1. Direct observation and feedback by faculty and other interdisciplinary team members
2. Competency-based faculty evaluation form at end of rotation

Suggested reading

1) Spine Secrets, Vincent J. Devlin, 2nd ed.

2) Diagnostic imaging: Spine. Ross JS, Brant-Zawadzki M, Moore KR, 2nd ed.

3) The textbook of spine surgery; Bridwell KH, DeWald RL, Vol. 1 and 2, 3rd ed.

4) The Management of Pain, 2nd ed, John J Bonica. Vol I.

Chapters:

2. "Definitions and Taxonomy of Pain" pp. 18-26

3. "Anatomic and Physiologic Basis of Nociception and Pain" pp. 28-52, 87-90, optional: 53-86.

6. "Applied Anatomy Relevant to Pain" pp. 133-158

5) Waldman, Pain Management, 2nd ed.

Chapters:

5. "History and Physical Exam of the Pain Patient" pp. 36-49

6. "Patterns of Common Pain Syndromes" pp. 50-56

12. "A Practical Approach to Radiation Protection" pp. 102-104

17. "Neural Blockade for the Diagnosis of Pain" pp. 144-149

18. "Differential Neural Blockade for the Diagnosis of Pain" pp. 150-161

38. "Neurosurgery in the Management of Cancer Pain" pp. 333-335

6) DeLisa's Physical Medicine and Rehabilitation, Principles and Practice, 5th ed.

Chapters:

49. "Treatment of the Patient with Chronic Pain" pp. 1273-1310

67. "Injection Procedures" pp. 1815-1871

68. "Spinal Injection Procedures" pp. 1875-1898