

Curriculum Vitae and Bibliography

Michael David Osborne, MD

Personal Information

Place of Birth: Hamilton, OH
Citizenship: United States of America
Work Address: Mayo Clinic Jacksonville
4500 San Pablo Rd S
Jacksonville, FL 32224-1865
Email Address: osborne.michael@mayo.edu

Present Academic Rank and Position

Consultant - Department of Pain Medicine, Mayo Clinic, Jacksonville, Florida 07/30/2003 - Present
Assistant Professor of Anesthesiology - Mayo Clinic College of Medicine and Science 07/01/2006 - Present
Assistant Professor of Physical Medicine and Rehabilitation - Mayo Clinic College of Medicine and Science 07/01/2006 - Present
Consultant (Joint Appointment) - Department of Neurosurgery, Mayo Clinic, Jacksonville, Florida 11/28/2018 - Present

Education

College of Arts and Sciences, Miami University - BS, Zoology 1986 - 1990
Ohio State University College of Medicine - MD 1990 - 1994
Riverside Methodist Hospital - Internship, Internal Medicine 1994 - 1995
Department of Physical Medicine & Rehabilitation - Resident 1995 - 1998
Physical Medicine and Rehabilitation, Programs in Rochester, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Rochester, Minnesota - Resident 07/01/1995 - 06/26/1998
Department of Physical Medicine & Rehabilitation - Fellow, Sports Medicine 1998 - 1999
Department of Physical Medicine & Rehabilitation - Fellow, Musculoskeletal Medicine 1999 - 2000
Musculoskeletal Rehabilitation, Programs in Florida, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Jacksonville, Florida - Resident 06/26/1999 - 06/30/2000

Additional Education

MSGME Program Directors Workshop 2013
Two day meeting to enhance skills as a program director and academic leader.
Mayo Clinic College of Medicine
Leadership Lecture Series 2014 - 2015
Learn how to be an effective leader.
Mayo Clinic
MSGME Program Directors Workshop 2015
Two day meeting to enhance skills as a program director and academic leader.
Mayo Clinic College of Medicine
Write Winning Grant Proposals 2015
Seven hour CME course providing critical information on how to develop and submit grant proposals for extramural funding.
Mayo Clinic College of Medicine

Certification

Board Certifications

American Board of Physical Medicine and Rehabilitation

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| Part I | 1998 - Present |
| Part II | 1999 - Present |
| Physical Medicine and Rehabilitation | 1999 - Present |
| Physical Medicine and Rehabilitation/Pain Medicine | 2003 - Present |

Other Certifications**Mayo Clinic Quality Academy**

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| Mayo Clinic Quality Fellow: Bronze Level Certification | 2011 |
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Licensure

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| Florida | (Medical) |
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Honors and Awards

| | |
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| Dean's List - eight semesters - College of Arts and Sciences, Miami University | 01/1986 - 01/1990 |
| Cum Laude - College of Arts and Sciences, Miami University | 01/1990 |
| Distinguished Student Achievement Award - College of Arts and Sciences, Miami University | 01/1990 |
| Inducted: Golden Key National Honor Society - College of Arts and Sciences, Miami University | 01/1990 |
| Student Research Assistantship - Cancer Education Program - Ohio State University College of Medicine | 01/1991 |
| Honors Citation: Surgical Oncology Research Elective - Ohio State University College of Medicine | 01/1992 |
| Inducted: Landacre Society (student research honorary) - Ohio State University College of Medicine | 01/1992 |
| Letters of Commendation: PM&R, Sports Medicine, Radiology, and Psychiatry - Ohio State University College of Medicine | 01/1993 - 01/1994 |
| Distinguished Service Award - American Academy of Pain Management, Jacksonville, Florida | 01/01/2019 |

Previous Professional Positions and Major Appointments

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|---|-------------------------|
| Student Research Assistantship - Cancer Education Program, Ohio State University College of Medicine, Columbus, Ohio | 1991 |
| Research Assistant - James Cancer Hospital and Research Institute, Ohio State University College of Medicine, Columbus, Ohio | 1992 - 1993 |
| Associate Consultant - Department of Pain Medicine, Mayo Clinic, Jacksonville, Florida | 07/03/2000 - 07/29/2003 |
| Instructor of Anesthesiology - Mayo Clinic College of Medicine and Science | 10/01/2001 - 06/30/2006 |
| Director - Pain Medicine Fellowship Program, Department of Pain Medicine, Mayo Clinic, Jacksonville, Florida | 2009 - 2018 |
| Physician Education Coordinator - Department of Pain Medicine, Mayo Clinic, Jacksonville, Florida | 2014 - 2018 |

Professional Memberships and Societies**Professional Memberships and Services**

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|--|-------------------------|
| American Academy of Pain Management Nominating Committee Member | 01/01/2021 - 12/31/2021 |
| American Academy of Pain Medicine | |

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| Member | 01/2009 - Present |
| Nominating Committee Member | 01/01/2019 - 12/31/2019 |
| Council of committee Co-Executive Chair | 09/01/2022 - 09/01/2023 |
| Executive Co-Chair of the Council of Committee Chairs | 2023 - Present |
| Clinical Guidelines Committee | |
| Committee Member | 2014 - 2015 |
| Co-Chair | 2015 - 2022 |
| Delegate - Clinical Practice Guidelines Working group: SCS | |
| Clinical Guidelines | 2010 |
| Scientific Poster Abstract Committee | |
| Committee Member | 2010 - Present |
| American Academy of Physical Medicine and Rehabilitation | |
| Member | 01/1996 - 01/2001 |
| Resident Physician Council | |
| Member | 01/1996 - 01/1997 |
| Research Committee | |
| Vice Chair | 01/1996 - 01/1997 |
| American Institute of Ultrasound in Medicine | |
| Member | 01/2008 - 01/2009 |
| American Medical Association | |
| Member | 01/1995 - 01/1998 |
| American Society of Spine Radiology | |
| Member | 03/2010 - 03/2011 |
| Association of Pain Program Directors | |
| Contributing Member | 2014 - 2018 |
| Clinical Competency Committee, Department of Pain Medicine | |
| Member | 2013 - 2021 |
| Minnesota Medical Association | |
| Member | 01/1995 - 01/1998 |
| Annual Assembly | |
| Resident Delegate | 01/1997 |
| Neuromodulation Leadership Forum | |
| Member | 2010 - Present |
| North American Spine Society | |
| Member | 01/2011 - 01/2012 |
| Physiatric Association of Spine, Sports and Occupational Rehabilitation | |
| Member | 01/1998 - 01/1999 |

Journal Responsibilities

Journal Editorial Responsibilities

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| Rehab in Review | |
| Contributing Editor | 01/1996 - 01/1997 |

Journal Other Responsibilities

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| Archives of Physical Medicine and Rehabilitation | |
| Manuscript Reviewer | 01/2001 - 2008 |
| Journal of Musculoskeletal Medicine | |
| Manuscript Reviewer | 01/2002 |
| Journal of Pain Medicine | |
| Manuscript Reviewer | 2009 - Present |

Neuromodulation: Technology at the Neural Interface

Manuscript Reviewer

09/2012 - Present

Education Interests and Accomplishments**Curriculum and Course Development**

| | |
|---|----------------------|
| Organized a Weekly Sports Medicine Conference Departments of Orthopedics/Physical Medicine & Rehabilitation, Mayo Clinic Rochester, Minnesota | 01/19/1998 - 01/1999 |
| Organized a Monthly Sports Medicine Journal Club Departments of Orthopedics/Physical Medicine & Rehabilitation, Mayo Clinic Rochester, Minnesota | 01/19/1998 - 01/1999 |
| Didactic Curriculum Development of a comprehensive multidisciplinary didactic curriculum for pain medicine fellows at Mayo Clinic Florida Mayo Clinic College of Medicine Jacksonville, Florida | 2010 - 2018 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/09/2013 |
| Spinal Injections and Radiofrequency Lesioning Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/18/2013 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/29/2013 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/13/2013 |
| Ethical Standards in Pain Management & Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 04/17/2014 |
| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 05/08/2014 |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 05/29/2014 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/08/2014 |
| Spinal Injections Including Epidural Injections: Interlaminar, Transforaminal, Nerve Root Sheath Injections | 07/22/2014 |

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| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo clinic Jacksonville Jacksonville, Florida | 08/19/2014 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/04/2014 |
| EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/30/2014 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/13/2014 |
| Ethical Standards in Pain Management & Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/25/2014 |
| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 12/09/2014 |
| Musculoskeletal Exam Workshop Department of Pain Medicine Jacksonville, Florida | 2015 - Present |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 01/06/2015 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/11/2015 |
| Zygapophysial Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/25/2015 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/03/2015 |
| Spinal Injections including Epidural Injections: Interlaminar, Transforaminal, Nerve | 09/15/2015 |

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| Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | |
| EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/22/2015 |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/13/2015 |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/27/2015 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 12/08/2015 |
| Spinal Injections Including Epidural Injections: Intralaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/21/2016 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/28/2016 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/02/2016 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/16/2016 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/25/2016 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/27/2016 |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating | 10/13/2016 |

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| Residents Mayo Clinic Jacksonville Jacksonville, Florida | |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/25/2016 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/03/2017 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/08/2017 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/07/2017 |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/26/2017 |
| Spinal Injections Including Epidural Injections: Intralaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/05/2017 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/24/2017 |
| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/14/2017 |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/21/2017 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/11/2018 |
| Spinal Injections Including Epidural Injections: Intralaminar, Transforaminal, and Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | 07/24/2018 |

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| Mayo Clinic Jacksonville Jacksonville, Florida | |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/31/2018 |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/17/2018 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/13/2018 |
| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 01/02/2019 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 02/28/2019 |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 04/04/2019 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/09/2019 |
| Spinal Injections including Epidural Injections: Intralaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/23/2019 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/15/2019 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/27/2019 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/12/2019 |

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| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/24/2019 |
| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 10/31/2019 |
| Multidisciplinary Pain Management Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/06/2019 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 01/16/2020 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/18/2020 |
| Spinal Injections including Epidural Injections: Intralaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 12/16/2020 |
| Spinal injections including epidural injections: interlaminar, transforaminal, nerve root sheath injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotation Residents Mayo Clinic Florida Jacksonville, Florida | 12/16/2020 |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 02/03/2021 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 05/05/2021 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville | 05/26/2021 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/28/2021 |
| Spinal injections including epidural injections: interlaminar, transforaminal, nerve root sheath injections | 08/25/2021 |

Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents
Mayo Clinic Jacksonville
Jacksonville, Florida

Basic EMG 09/08/2021

Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents
Mayo Clinic Jacksonville
Jacksonville, Florida

Ethical standards in pain management and research 09/28/2021

Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents
Mayo Clinic Jacksonville
Jacksonville, Florida

Teaching

Heterotopic Ossification in Spinal Cord Injury 1995

Department of Physical Medicine and Rehabilitation clinical conference lecture
Mayo Clinic Rochester
Rochester, Minnesota

Chronic Knee Pain in Active Adolescents 1995

Department of Physical Medicine and Rehabilitation/Orthopedics sports medicine lecture
Mayo Clinic Rochester
Rochester, Minnesota

Critical Illness Polyneuropathy 1996

Department of Physical Medicine and Rehabilitation clinical conference lecture
Mayo Clinic Rochester
Rochester, Minnesota

EMG and NCS in Axonal Neuropathies 1996

Department of Physical Medicine and Rehabilitation/Neurology Neurophysiology course lecture
Mayo Clinic Rochester
Rochester, Minnesota

Ulnar Neuropathy at the Elbow 1996

Department of Physical Medicine and Rehabilitation/Neurology Neurophysiology course lecture
Mayo Clinic Rochester
Rochester, Minnesota

Tarsal Tunnel Syndrome 1996

Department of Physical Medicine and Rehabilitation/Neurology Neurophysiology course lecture
Mayo Clinic Rochester
Rochester, Minnesota

Metabolic Myopathies 1996

Department of Physical Medicine and Rehabilitation/Neurology Neurophysiology course lecture
Mayo Clinic Rochester
Rochester, Minnesota

Alcoholic and Diabetic Neuropathies 1996

Department of Physical Medicine and Rehabilitation/Neurology Neurophysiology course lecture
Mayo Clinic Rochester
Rochester, Minnesota

Shoulder Rehabilitation 1997

Department of Physical Medicine and Rehabilitation E-10 discussion group
Mayo Clinic Rochester
Rochester, Minnesota

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| Idiopathic Brachial Plexopathy Department of Physical Medicine and Rehabilitation Grand Rounds Mayo Clinic Rochester Rochester, Minnesota | 1998 |
| Musculoskeletal Physical Examination Lecture and lab practicum Mayo Clinic Rochester, Mayo Medical School Rochester, Minnesota | 1998 |
| Spinal Cord Injury Seminar on treatment of acute complications of spinal cord injury Mayo Clinic Rochester, Mayo Medical School Rochester, Minnesota | 1998 |
| Research Study Design Department of Physical Medicine and Rehabilitation basic science lecture Mayo Clinic Rochester Rochester, Minnesota | 1999 |
| Functional Ankle Instability Department of Physical Medicine and Rehabilitation Research Seminar. Presentation of the effect of ankle disk training on muscle reaction time in subjects with previous history of ankle sprain. Mayo Clinic Rochester Rochester, Minnesota | 1999 |
| Basic Electromyography for the Pain Specialist Educational lecture for Mayo pain fellows, staff, and visiting residents Mayo Clinic Florida Jacksonville, Florida | 01/2000 - Present |
| Evaluation and Treatment of Knee Pain Educational lecture for Mayo pain fellows, staff, and visiting residents Mayo Clinic Florida Jacksonville, Florida | 2000 |
| Treatment of Chronic Pain in Geriatric and Pediatric Patients Educational lecture for Mayo pain fellows, staff, and visiting residents Mayo Clinic Florida Jacksonville, Florida | 2001 |
| Evaluation and Treatment of Foot and Ankle Pain Educational lecture for Mayo pain fellows, staff, and visiting residents Mayo Clinic Florida Jacksonville, Florida | 01/2001 - 01/2011 |
| Physical Therapy of Low Back Pain/Pain Syndromes Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 04/24/2001 |
| Functional Capacity Evaluation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 06/05/2001 |
| Spinal Injections: What the Literature Tells Us Comprehensive review of the literature regarding efficacy of common spinal injections for pain management Mayo Clinic Spine Conference Scottsdale, Arizona | 2002 |
| Assessment of Pain and Function Educational lecture for Mayo pain fellows, staff, and visiting residents Mayo Clinic Florida Jacksonville, Florida | 2003 - Present |
| Complications of Spinal Injections | 2003 |

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|---|----------------|
| Literature review of the most common complications of spinal injections performed in an interventional pain setting Mayo Clinic Spine Conference Scottsdale, Arizona | |
| Evaluation and Treatment of Knee Pain Educational lecture for Mayo pain fellows, staff, and visiting residents Mayo Clinic Florida Jacksonville, Florida | 2003 - 2007 |
| The Role of Lumbar Epidural Injections in the Treatment of the Low Back Pain Syndromes (Efficacy & Complications) Mayo Clinic Grand Rounds Jacksonville, Florida | 2004 |
| Principles of PT and Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/12/2006 |
| Disability and Impairment Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/13/2006 |
| Epidemiology of Pain Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2007 - Present |
| Spinal Injections Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2007 - Present |
| Epidemiology & Economics of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 02/22/2007 |
| Epidemiology & Ethics of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 03/29/2007 |
| Epidemiology & Ethics of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 04/05/2007 |
| EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 05/03/2007 |
| EMG Interpretation Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2008 - Present |
| Acute Pain Management in Hospital | 2008 - Present |

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| Pain Medicine Didactics Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | |
| Opiate Management in Cancer Pain Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/2008 |
| Functional Disability Assessment / Vocational Rehabilitation Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2009 - Present |
| Spinal Cord Stimulation Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2009 - Present |
| Musculoskeletal Exam Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2009 - 2011 |
| Cooled Radiofrequency Sacroiliac Joint Injection Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2009 - 2011 |
| Physical Medicine & Rehabilitation Examination Spine Lower & Upper Extremities Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 04/2009 |
| General principles of pain evaluation and management Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/09/2009 |
| Taxonomy of pain syndromes Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/05/2009 |
| Pain of spinal origin including radicular pain, zygapophysial joint disease, discogenic pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/06/2009 |
| Myofascial pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/12/2009 |
| assessment of pain in special populations Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | 10/07/2009 |

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| Mayo Clinic Florida Jacksonville, Florida | |
| Functional & Disability Assessment Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 10/08/2009 |
| Prescription drug detoxification concepts Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 11/04/2009 |
| Functional & vocational rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 11/05/2009 |
| Joint / Bursa Injections Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2010 - 2011 |
| Continuing qualify improvement, utilization review & program evaluation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 01/07/2010 |
| Fluoroscopic imaging & radiation safety Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 02/11/2010 |
| Spinal injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 03/10/2010 |
| Joint & bursal injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 03/17/2010 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 04/07/2010 |
| General Principles of Musculoskeletal Exam Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2010 |
| Spinal injections including epidural injections: interlaminar, tranforaminal, nerve root sheath injections, and zygapophysial joint injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2010 |

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| Joint and bursal injections, including sacroiliac, hip, knee and shoulder joint injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2010 |
| Spinal cord stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2010 |
| Radiofrequency Neurolysis Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2010 |
| Functional and vocational rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2011 |
| Epidemiology of pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2011 |
| Multidisciplinary pain medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2011 |
| Zygopophysial Joint Injections/ RFL Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2012 - Present |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2012 - Present |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lectures Educational Series for Fellows and rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2012 - Present |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/09/2013 |
| Spinal Injections and Radiofrequency Lesioning Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/18/2013 |
| Zygopophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating | 07/29/2013 |

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| Residents Mayo Clinic Florida Jacksonville, Florida | |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/13/2013 |
| Spinal Injections Including Epidural Injections, Interlaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2014 |
| Sacroiliac Injections and Radiofrequency Lesioning Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2014 |
| Zygopophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2014 |
| Spinal Cord Stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2014 - 01/2014 |
| Functional and Vocational Rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2014 |
| Ethical Standards in Pain Management & Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 04/17/2014 |
| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 05/08/2014 |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 05/29/2014 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 2014 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida | 09/03/2015 |

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| Jacksonville, Florida | |
| Spinal Injections Including Epidural Injections: Interlaminar, Transforaminal, Nerve Root Sheath Injections | 09/15/2015 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Acute Pain | 08/02/2016 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Zygopophysial Joint Injections/RFL | 08/16/2016 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| EMG | 08/25/2016 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Functional and Vocational Rehabilitation | 09/27/2016 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Acute Pain | 2017 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Spinal Injections Including Epidural Injections, Interlaminar, Transforaminal, Nerve Root Sheath Injections, and Zygopophysial Joint Injections | 2017 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Spinal Cord Stimulation | 2017 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Functional and Vocational Rehabilitation | 2017 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Zygopophysial Joint Injections/RFL | 2017 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |
| Ethical Standards in Pain Management and Research | 01/2018 |
| Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents | |
| Mayo Clinic Florida Jacksonville, Florida | |

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| Epidemiology of Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida | 02/2018 |
| Multidisciplinary Pain Medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 02/2018 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 03/2018 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/12/2018 |
| Spinal injections including epidural injections: interlaminar, transforaminal, nerve root sheath injections, and zygapophysial joint injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/24/2018 |
| Spinal cord stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida | 07/31/2018 |
| Ethical standards in pain management and research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 09/18/2018 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 11/13/2018 |
| Functional and vocational rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 12/20/2018 |
| Epidemiology of pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 01/03/2019 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 02/21/2019 |
| Multidisciplinary pain medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida | 04/04/2019 |

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| Jacksonville, Florida | |
| Acute pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/09/2019 |
| Spinal injections including epidural injections: interlaminar, transforaminal, nerve root sheath injections, and zygapophysial joint injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/23/2019 |
| Spinal cord stimulation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/15/2019 |
| Zygapophysial Joint Injections/RFL Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/27/2019 |
| Functional and vocational rehabilitation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 09/12/2019 |
| Ethical standards in pain management and research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 10/24/2019 |
| Multidisciplinary pain medicine Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 11/07/2019 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/28/2021 |
| Spinal injections including epidural injections: interlaminar, transforaminal, nerve root sheath injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/25/2021 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/08/2021 |
| Ethical Standards in Pain Management and Research Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 09/29/2021 |

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| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/20/2022 |
| Basic EMG Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/03/2022 |
| Spinal Injections including epidural injections; interlaminar, transforaminal, nerve root sheath Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 09/28/2022 |
| Basivertebral nerve ablation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 11/02/2022 |
| Spinal Injections Including Epidural Injections: Interlaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 07/19/2023 |
| Basivertebral Nerve Ablation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 08/16/2023 |
| Acute Pain Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Jacksonville Jacksonville, Florida | 02/21/2024 |
| Spinal Injections Including Epidural Injections: Interlaminar, Transforaminal, Nerve Root Sheath Injections Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 07/26/2024 |
| Basivertebral Nerve Ablation Pain Medicine Didactic Lecture Educational Series for Fellows and Rotating Residents Mayo Clinic Florida Jacksonville, Florida | 08/28/2024 |

Mentorship

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| , (Intern) Description: Clinical Supervisor – Interns during their month rotation in Sports Medicine, Mayo Clinic Rochester Current Status: Outcome: | 01/1998 - 01/1999 |
| , (Medical Students) Description: Clinical Supervisor – Medical Students, during their month rotation in Sports Medicine, Mayo Clinic Rochester during their month rotation in Sports Medicine, Mayo Clinic Rochester | 01/1998 - 01/1999 |

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| Current Status: | |
| Outcome: | |
| , (Fellow) | 01/2002 - 01/2006 |
| Description: Clinical Supervisor – Family Medicine Sports Medicine Fellowship, Mayo Clinic Jacksonville | |
| Current Status: | |
| Outcome: Successful completion of Pain Medicine rotation. | |
| , (Anesthesia Resident) | 01/2006 - Present |
| Description: Mentor residents during their monthly rotation Pain Medicine Department | |
| Current Status: | |
| Outcome: Successful completion of Pain Medicine rotation. | |
| Rodriguez MD, Gabriel (Fellow) | 01/2009 - 01/2010 |
| Description: Fellow was personally mentored in clinical practice and research. | |
| Current Status: Successful Private Practice, TX | |
| Outcome: Board Certified | |
| , (Medical Students) | 01/2010 - Present |
| Description: Clinical/ Educational Supervisor for rotating Medical Students | |
| Current Status: | |
| Outcome: Quality exposure to the specialty of Pain Medicine | |
| Zollinger DO, Jeff (Fellows) | 01/2010 - 01/2011 |
| Description: Fellow was personally mentored in clinical practice and research. | |
| Current Status: Successful private practice. | |
| Outcome: Board Certified | |
| Derr DO, Michael (Fellow) | 01/2011 - 01/2012 |
| Description: Fellow was personally mentored in clinical practice and research. | |
| Current Status: Successful private practice | |
| Outcome: Board Certified | |
| Wallace MD, Adam (Fellow) | 01/2012 - 01/2013 |
| Description: Fellow was personally mentored in clinical practice and research. | |
| Current Status: Successful private practice | |
| Outcome: Board Certified | |
| Tate MD, Jordan (Fellow) | 01/2013 - 01/2014 |
| Description: Fellow was personally mentored in clinical practice and research. | |
| Current Status: Successful private practice | |
| Outcome: Board Certified | |
| Bailey MD, Joshua (Fellow) | 01/2014 - 01/2015 |
| Description: Fellow was personally mentored in clinical practice and research. | |
| Current Status: Successful private practice | |
| Outcome: Board Certified | |
| Reimer MD, Graham (Fellow) | 01/2015 - 01/2016 |
| Description: Fellow was being personally mentored in clinical practice and research. | |
| Current Status: Successful private practice. | |
| Outcome: Board Certified | |
| Howard, Timothy (Fellow) | 07/2016 - 06/2017 |
| Description: Fellow was being personally mentored in clinical practice and research. | |
| Current Status: Successful Private Practice | |
| Outcome: | |
| Cara, Jeffrey (Fellow) | 07/2017 - 06/2018 |
| Description: Fellow was being personally mentored in clinical practice and research | |
| Current Status: Successful Private Practice | |
| Outcome: | |

Academic Career Development

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| Crucial Conversations Jacksonville, Florida | 2012 |
| Crucial Conversations Jacksonville, Florida | 2013 |
| MCSGME 11th Biennial Program Directors Workshop MCSGME 11th Biennial Program Directors Workshop Ponte Vedra Beach, FL, Florida | 2018 |

Educational Activities

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| 2013: Awarded industry funded unrestricted grant for pain medicine fellowship education support, \$25,000. |
| 2014: Awarded industry funded unrestricted grant for pain medicine fellowship education support, \$25,000. |
| 2015: Awarded industry funded unrestricted grant for pain medicine fellowship education support, \$10,000. |
| 2016: Awarded industry funded unrestricted grant for pain medicine fellowship education support, \$15,000. |
| 2017: Awarded industry funded unrestricted grant for pain medicine fellowship education support, \$15,000. |

Institutional/Departmental Administrative Responsibilities, Committee Memberships and Other Activities**Mayo Clinic**

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| Department of Education Administration Mayo Clinic College of Medicine Mayo School of Graduate Medical Education Program Directors Committee (Jacksonville) Member | 01/2010 - 07/2018 |
| Mayo Foundation for Medical Education and Research Medical and Laboratory Specialties Graduate Education Committee, MCJ Member | 01/2003 - 01/2008 |

Mayo Clinic in Florida

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| Department of Pain Medicine Clinical Competency Committee Member | 12/2013 - 06/2018 |
| Chair | 07/2018 - 2019 |
| Pain Medicine Clinical Competency Committee Chair | 07/01/2020 - Present |
| Pain Medicine Fellowship Program Director | 01/2009 - Present |
| Program Director | 2009 - 2018 |
| Research Committee Member | 2010 - Present |
| Department of Physical Medicine & Rehabilitation Research Committee Member | 01/2009 - 07/2018 |
| Interventional Spine Group Member | 2021 - Present |
| Mayo Clinic Florida Committees Clinical Practice Committee - Florida Pharmacy and Therapeutics Committee - Florida Member | 01/2006 |

Activities at Other Institutions

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| American Academy of Pain Medicine Council of Committee Executive Co-Chair | 2022 - Present |
| American Academy of Pain Medicine Finance Committee Member | 2023 - Present |

Presentations Extramural

National or International

Selecting the Appropriate Spinal Injection for Your Patient
Presentation
6th Annual Mayo Clinic Multidisciplinary Spine Care Conference 2022
Amelia Island, Florida 11/18/2022

Invited

Rehabilitation of Spine and Limb Pain
American Academy of Pain Medicine, Annual Meeting/Review Course
Palm Springs, California 2005

Pharmacologic Management of Pain
2010 ASSR Annual Symposium
Las Vegas, Nevada 2010

Cervical and Thoracic Lumbar Spine
Pain Medicine for the Non Pain Specialist
Marco Island, Florida 03/16/2016

Neuro Modulation for Pain
Mayo Clinic Rehabilitation Medicine Update
Orlando, Florida 02/03/2017 - 02/05/2017

Ultrasound guided injection with phantom for practice
Regenerative Medicine Workshop
Mayo Clinic Rehabilitation Medicine Update
Orlando, Florida 02/04/2017

Pearls of Opioid Management
3rd Annual Rheumatology Review for Primary Care
Amelia Island, Florida 05/11/2017 - 05/13/2017

Pearls of Opioid Management
4th Annual Rheumatology Review for Primary Care 05/17/2018

Panel Member at AAPM Annual Meeting
Panel Member
AAPM Annual Meeting
National Harbor, MD 02/26/2020 - 03/01/2020

Selecting the Appropriate Spinal Injection for Your Patient
Presentation
5th Annual Mayo Clinic Multidisciplinary Spine Care Conference 2021
Amelia Island, Florida 11/13/2021

Integrating Multimodal Care: Case Presentation and Panel Discussion
Case Presentation and Panel Discussion
7th Annual Multidisciplinary Spine Care Conference 2023
Amelia Island, Florida 11/11/2023

Selecting the Appropriate Spinal Injection for Your Patient
Presentation
7th Annual Mayo Clinic Multidisciplinary Spine Care Conference 2023
Amelia Island, Florida 11/11/2023

Oral

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|---|-------------------|
| Back Pain - Volleyball Player Case presentation American College of Sports Medicine, 44th Annual Assembly Denver, Colorado | 1997 |
| Shoulder Weakness - Geriatric Golfer Case presentation American College of Sports Medicine, 45th Annual Assembly Orlando, Florida | 1998 |
| Foot Pain - Female Soccer Player Case Presentation American College of Sports Medicine, 45th Annual Assembly Seattle, Washington | 1999 |
| Leg Pain - Dance Line Cheerleader Case presentation American College of Sports Medicine, 47th Annual Assembly Indianapolis, Indiana | 2000 |
| Shoulder Pain - Tennis Player Case presentation American College of Sports Medicine, 48th Annual Assembly Baltimore, Maryland | 2001 |
| Spinal Cord Stimulation - Trial Lead Migration Study American Academy of Pain Medicine Annual Meeting San Antonio, Texas | 2010 |
| Cooled Radiofrequency Neurotomy for Sacroiliac Joint Pain: A Retrospective Case Review AAPM&R 71st Annual Assembly Seattle, Washington | 11/2010 |
| Interventional Techniques in Cervical Spondylitic Myelopathy Regional presentation Mayo Clinic Alumni Association 67th Meeting Ponte Vedra, Florida | 09/22/2011 |
| Spinal Cord Stimulation: Update Mayo Clinic Spine Conference Phoenix, Arizona | 01/2012 |
| Placement of an Intrathecal Catheter through a Bony Fusion Mass Using 3D Image Guidance: A Case Report World Institute of Pain 6th World Congress Miami Beach, Florida | 02/2012 |
| Musculoskeletal Neck Pain Pain Medicine for the Non-Pain Specialist Marco Island, Florida | 03/2013 |
| Piriformis Syndrome Pain Medicine for the Non-Pain Specialist Marco Island, Florida | 03/2013 |
| Cervical Spine Cases Pain Medicine for the Non-Pain Specialist Marco Island, Florida | 03/2014 - 03/2015 |
| Lumbar Spine Cases Pain Medicine for the Non-Pain Specialist Marco Island, Florida | 03/2014 - 03/2015 |
| Challenging Cases in Pain Medicine Pain Medicine for the Non-Pain Specialist Palm Desert, California | 03/2015 |

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| Hand-On Physical Exam Workshop: Pearls and Hands-On Experience Cervical (Thoracic) and Lumbar Spine Pain Medicine for the Non-Pain Specialist 2017 | 02/15/2017 - 02/18/2017 |
| Geographical Variation in Opioid Related Hospital Use for Year 2015: A National Study Presentation with Sahil Gupta, M.D. 2019 AAPM Annual Meeting Denver, Colorado | 03/07/2019 |
| Poster | |
| Cuneiform Stress Fracture: Complications of Treatment in an Adolescent with Pituitary Gigantism American Academy of Physical Medicine and Rehabilitation Annual Assembly Washington, D.C., District of Columbia | 1999 |
| Motion Analysis of the Head and Neck While Wearing Football Equipment. American Academy of Physical Medicine and Rehabilitation. Boston, Massachusetts | 2007 |
| Radiofrequency Denervation of the Lumbar Zygapophysial Joints in Patients with Deep Brain Stimulators American Academy of Physical Medicine Annual Meeting San Diego, California | 11/2008 |
| Cerebrospinal Fluid Aspiration from a Cervical Zygapophysial Joint American Academy of Pain Medicine Poster Presentation Annual Meeting Honolulu, Hawaii | 01/2009 |
| Safety Guidelines for Radiofrequency Neurotomy in Patients with Deep Brain Stimulators American Academy of Pain Medicine Poster Presentation Annual Meeting Honolulu, Hawaii | 01/2009 |
| Spinal Cord Stimulation Trial Lead Migration Study Part II AAPM 2014 Phoenix, Arizona | 03/2014 |
| Effectiveness of multidisciplinary cognitive behavioral treatment in patients with post-laminectomy syndrome who have failed spinal cord stimulation. American Academy of Pain Medicine National Harbor, Maryland | 03/2015 |
| Multidisciplinary Pain Rehabilitation Programs May Improve Interventional Spine Treatment by Reducing "Wind-up": A Case Report 2016 American Academy of Pain Medicine Annual Meeting Palm Springs, California | 02/2016 |
| Case of Sodium Channelopathy Nav1.9 Diagnosed in a Young Woman with Neuropathic Pain 2016 American Academy of Pain Medicine Annual Meeting Palm Springs, California | 02/2016 |
| Effects of Intensive Interdisciplinary Pain Rehabilitation Program on Fibromyalgia Patients Diagnosed with the American College of Rheumatology 2010 Diagnostic Criteria AAPM 2017 Annual Meeting Orlando, Florida | 03/16/2017 |
| Peripheral Nerve Stimulator for the Treatment of Lumbar Radiculopathy Pain. Poster ASIPP Meeting | 03/15/2018 |
| Geographical Variation in Opioid Related Hospital Use for Year 2015: A National Study Award Winning Poster 2019 AAPM Annual Meeting | 03/07/2019 |

Denver, Colorado

Regional

Invited

Inpatient Pain Management 06/23/2016
 Mayo Clinic Reviews and Primary Care Update
 Amelia Island, Florida

Cancer Pain Management 04/20/2017
 Radiation Oncology Grand Rounds
 Jacksonville, Florida

Oral

Examination of the Shoulder and Spine 1999
 Lecture and lab practicum
 Winona State University, Advanced Practice Nursing/Adult and Family Nurse
 Practitioner Program
 Winona, Minnesota

Living with Osteoporosis 1999
 Lecture for Elder Hostel reviewing osteoporosis pathophysiology and treatment
 Rochester, Minnesota

Medical Evaluation of Common Cycling Injuries 2001
 Synopsis of common cycling injuries, including their diagnosis and treatment
 Mayo Clinic Jacksonville Clinical Reviews and Primary Care Update
 Amelia Island, Florida

Running with Pain: Prevention and Treatment of Pain Due to Running Sports 2001
 Synopsis of common running injuries, including their diagnosis and treatment
 Mayo Clinic Jacksonville Patient Education Series
 Jacksonville, Florida

Back Pain in Golfers 2002
 Discussion of the most common causes of back pain in golfers, their diagnosis and
 treatment
 Mayo Clinic Jacksonville Patient Education Series
 Jacksonville, Florida

Stress Fractures 2002
 Review of pathophysiology, diagnosis and treatment of stress fractures
 Mayo Clinic Jacksonville Clinical Reviews and Primary Care Update
 Amelia Island, Florida

Therapeutic Exercise and Adjunctive Modalities in Pain Management 2003
 Overview of Physical Medicine and Rehabilitation principals used in chronic pain
 management
 Mayo Clinic Symposium on Anesthesia and Perioperative Medicine
 Naples, Florida

Examination of the Lumbar Spine Clinical Reviews & Primary Care Update 2004
 Mayo Clinic
 Amelia Island, Florida

Interventional Therapy 2005
 Mayo Clinic Physical Medicine and Rehabilitation for Clinicians
 Amelia Island, Florida

Pain Pathophysiology 2005
 Mayo Clinic Physical Medicine and Rehabilitation for Clinicians
 Amelia Island, Florida

Lumbar Back Pain 2007
 Mayo Clinic Jacksonville Clinical Reviews and Primary Care Update.
 Amelia Island, Florida

Radiofrequency Neurotomy of the Sacroiliac Joint 01/2009

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| Mayo Spine Conference Orlando, Florida | |
| Pain Pharmacotherapy Clinical Reviews and Primary Care Update Amelia Island, Florida | 07/2009 |
| Pain Pharmacotherapy Jacksonville Veterans Outpatient Clinic Jacksonville, Florida | 10/2009 |
| Pain Pharmacotherapy Naval Air Station Jacksonville Jacksonville, Florida | 12/2009 |
| Common Cycling Injuries- Prevention and Treatment North Florida Bicycling Club Jacksonville, Florida | 03/2010 |
| Interventional Techniques for Cervical Spondylitic Myelopathy Mayo Alumni Meeting Ponte Vedra, Florida | 09/2011 |
| Chronic Pain Management Clinical Reviews/ Mayo Primary Care Update Amelia Island, Florida | 06/2013 |
| Interventional Therapy for Spinal Pain - Pearls presentation Mayo Clinic Multidisciplinary Spine Care Conference 2019 Amelia Island, Florida | 11/23/2019 |
| Poster | |
| Strength Training in the Elderly: Current Concepts and Practical Applications Orlando, Florida | 1999 |
| A Case of Ischiofemoral Impingement Syndrome 2010 AAP Annual Meeting Bonita Springs, Florida | 04/08/2010 |
| Rehabilitation of Sacral Incompetency Due to a Large Sacral Meningocele 2010 AAP Annual Meeting Bonita Springs, Florida | 04/08/2010 |

Clinical Practice, Interests, and Accomplishments

Assessment and treatment of complex spinal disorders. Assessment and treatment of chronic pain syndromes. Use of multidisciplinary cognitive-behavioral therapy in chronic pain. Use of spinal cord stimulation in chronic pain. Sports Medicine. Spine regenerative medicine techniques.

Research Interests and Accomplishments

Spinal cord stimulation for failed back surgery syndrome. Multidisciplinary cognitive-behavioral therapy for failed back surgery syndrome. Multidisciplinary cognitive-behavioral therapy for fibromyalgia. Brain mechanisms in multidisciplinary cognitive-behavioral therapy. Spine Regenerative Medicine.

Quality Initiatives

Quality Improvement Projects

Inbasket Redesign (Silver Project) Christy L. Hunt, DO (Team Lead), Kim McVeigh, MBA, FACHE, Amy L. Mongan, MSN, RN, RN-BC, Heather D. Penson-Holley, RN, Kathy B. Cloud, PA-C, MS, Aaron L. Fisher, PA-C, PA, **Michael D. Osborne, MD**, Margaret E. Brigham, RN, Stephanie O. Foskey, APRN. 06/05/2023

Pain Medicine Improvement Process (Silver Project) Salim M. ghazi, M.D., Jeffrey A. Stone, M.D., **Michael D. Osborne, M.D.**, Katherine (Kathy) B. Cloud, P.A.-C., M.S., Mark Friedrich B. Hurdle, M.D., Karen M. Norman, R.N., Erica E. Torres, R.N., Scott C. Palmer, M.D., Hesper L. Newsome, Alana E. Conley, Susan E. Ruddy-Maysonet, M.S.N., R.N., Susan (Brantlee) B. Broome-Stone, R.N., Sara M. Warren, R.N.. 08/02/2013

Research Grants Awarded

Completed Grants

Mayo Clinic

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| Principal Investigator | The Effect of Ankle Disk Training on Muscle Reaction Time in Subjects With Previous Ankle Sprain. Funded by Department of Physical Medicine & Rehabilitation, Mayo Clinic | 01/1997 |
|------------------------|---|---------|

Bibliography

Peer-reviewed Articles

1. Walker MJ, **Osborne MD**, Young DC, Schneebaum S, La Valle GJ, Farrar WB. The natural history of breast cancer with more than 10 positive nodes. *Am J Surg*. 1995 Jun; 169(6):575-9. PMID: 7771619
2. **Osborne MD**, Chou LS, Laskowski ER, Smith J, Kaufman KR. The effect of ankle disk training on muscle reaction time in subjects with a history of ankle sprain. *Am J Sports Med*. 2001 Sep-Oct; 29: (5)627-32. PMID: 11573922 DOI: 10.1177/03635465010290051601
3. **Osborne MD**, Rizzo TD Jr. Prevention and treatment of ankle sprain in athletes. *Sports Med*. 2003; 33 (15):1145-50 PMID: 14719982 DOI: 10.2165/00007256-200333150-00005
4. Shapiro SA, Ejaz AA, **Osborne MD**, Taylor WC. Moderate exercise-induced hyponatremia. *Clin J Sport Med*. 2006 Jan; 16 (1):72-3 PMID: 16377980 PMCID: PMC0 DOI: 10.1097/01.jsm.0000188042.04760.09
5. **Osborne MD**. Radiofrequency neurotomy for a patient with deep brain stimulators: proposed safety guidelines. *Pain Med*. 2009 Sep; 10(6):1046-9. Epub 2009 Sep 09. PMID: 19744216 DOI: 10.1111/j.1526-4637.2009.00686.x
6. **Osborne MD**, Ghazi SM, Palmer SC, Boone KM, Sletten CD, Nottmeier EW. Spinal cord stimulator--trial lead migration study. *Pain Med*. 2011 Feb; 12: (2)204-8. PMID: 21143759 DOI: 10.1111/j.1526-4637.2010.01019.x
7. Clendenen SR, Candler SA, **Osborne MD**, Palmer SC, Duench S, Glynn L, Ghazi SM. Needle placement for piriformis injection using 3-D imaging. *Pain Physician*. 2013 May-Jun; 16(3):E301-10. PMID: 23703429
8. Candler SA, **Osborne MD**, Derr MJ, Nottmeier EW. Placement of an intrathecal catheter through a bony fusion mass using 3D image guidance: a case report. *Clin J Pain*. 2013 Nov; 29(11):e30-2. PMID: 23552563 DOI: 10.1097/AJP.0b013e31829023a5
9. Bailey JC, Kurklinsky S, Sletten CD, **Osborne MD**. The Effectiveness of an Intensive Interdisciplinary Pain Rehabilitation Program in the Treatment of Post-Laminectomy Syndrome in Patients Who Have Failed Spinal Cord Stimulation. *Pain Med*. 2018 Feb 1; 19 (2):385-392 PMID: 28402524 DOI: 10.1093/pm/pnx060
10. Engelberg-Cook E, Hu D, Kurklinsky S, Mack A, Sletten CD, Qu W, **Osborne MD**. Outcomes of a Comprehensive Pain Rehabilitation Program for Patients With Fibromyalgia. *Mayo Clin Proc Innov Qual Outcomes*. 2021 Dec; 5 (6):1056-1065 Epub 2021 Nov 10 PMID: 34820597 PMCID: PMC8601967 DOI: 10.1016/j.mayocpiqo.2021.08.008
11. Yan D, Zubair AC, **Osborne MD**, Pagan-Rosado R, Stone JA, Lehman VT, Durand NC, Kubrova E, Wang Z, Witter DM, Baer MM, Ponce GC, Quinones-Hinojosa A, Qu W. CellKine clinical trial: first report from a phase 1 trial of allogeneic bone marrow-derived mesenchymal stem cells in subjects with painful lumbar facet joint arthropathy. *Pain Rep*. 2024 Oct; 9 (5):e1181 Epub 2024 Sept 18 PMID: 39300992 PMCID: PMC11412710 DOI: 10.1097/PR9.0000000000001181

Non-Peer-reviewed Articles

1. Baba Y, **Osborne MD**, Wszolek ZK, Kwolek A, Druzbecki M. Treatment of spasticity with botulinum toxin. *Ortopedia Traumatologia Rehabilitacja*. 2004; 6:665-672.

Book Chapters

1. **Osborne MD.** Chronic ankle instability. In: Frontera WR, Silver JK, editors. Essentials of Physical Medicine and Rehabilitation. Philadelphia: Hanley & Belfus; 2002. p. 409-13.
2. **Osborne MD.** Chronic ankle instability. In: Silver JK, Frontera WR, editors. Essentials of physical medicine and rehabilitation: review & self-assessment. Philadelphia: Hanley & Belfus; 2003. p. 187-8.
3. **Osborne MD, Rizzo TD Jr.** Neurorehabilitation. In: Schapira AHV, editor. Neurology and clinical neuroscience. Philadelphia: Mosby Elsevier; 2007. p. 1423-32.
4. **Osborne MD.** Arachnoiditis. In: Frontera WR, Silver JK, Rizzo TD Jr. editors., editor(s). Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation. 2nd ed. Philadelphia: Saunders/Elsevier; 2008. p. 565-9.
5. **Osborne MD.** Chronic ankle instability. In: Frontera WR, Silver JK, Rizzo TD Jr. editors. Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation. 2nd ed. Philadelphia: Saunders/Elsevier; 2008. p. 433-6.
6. **Osborne MD, Awan TM.** Nonsurgical Interventions, In, The hip and Pelvis in Sports Medicine and Primary Care. In: Seidenberg & Bowen eds. 2010. p. 271-295.
7. **Osborne MD, Rizzo TD, Wszolek ZK.** Rehabilitation of spastic disorders - the spectrum of therapy. In: Pop T, Obodyński K, eds. Fascynacja rehabilitacją [Fascination with rehabilitation, Polish]. Rzeszów, Poland.: Wydawnictwo Uniwersytetu Rzeszowskiego; 2010. p. 547-556.
8. **Osborne MD, Wallace A.** Arachnoiditis. In: Frontera WR; Silver JK; Rizzo TD Jr editor., editor(s). Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation. Third ed. Philadelphia: Elsevier/Saunders; 2015. p. 477-81.
9. **Osborne MD, Esser SM.** Chronic ankle instability. In: Frontera WR; Silver JK; Rizzo TD Jr editor. Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation. Third Edition. Philadelphia: Elsevier/Saunders; 2015. p. 435-8.
10. **Osborne MD, Awan TM, Hurdle MF.** Nonsurgical Interventions. In: Seidenberg & Bowen. The Hip and Pelvis in Sports Medicine and Primary Care .2 ed. Springer International Publishing;2017.344p.
11. **Osborne MD, Howard T.** Arachnoiditis. In: Frontera WR, Silver JK, Rizzo TD Jr, editor(s). Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation. . 4th ed. Philadelphia: Elsevier/Saunders; 2019. p. 523-7.
12. **Osborne MD, Esser SM.** Chronic ankle instability. In: Frontera WR, Silver JK, Rizzo TD Jr., editor(s). Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation. 4th ed. Philadelphia: Elsevier/Saunders; 2019. p. 471-4.

Abstracts

1. Walker MJ, Silliman E, **Osborne MD**, Robertson F. C-MYB oncogene in human malignant melanoma. Melanoma Res. 1993; 3(1):69.
2. **Osborne MD**, Newcomer K. Back pain: volleyball player. Med Sci Sports Exerc. 1997; 29(5 Suppl):S29.
3. **Osborne MD**, Takata J. Shoulder weakness: geriatric golfer. Med Sci Sports Exerc. 1998; 30(5 Suppl):S44.
4. **Osborne MD.** Foot pain - female soccer player (Abstract 283). Med Sci Sports Exerc. 1999; 31(5):S88.
5. Binigar J, Laskowski ER, **Osborne MD.** Leg pain-baseball player. Med Sci Sports Exerc. 1999 May; 31(5 Suppl):S350.
6. **Osborne MD.** Strength training in the elderly: current concepts & practical applications. J Aging Phys Act. 1999 Jul; 7(3):258.
7. **Osborne M**, Laskowski E. Cuneiform stress fracture: complications of treatment in an adolescent with pituitary gigantism. Arch Phys Med Rehabil. 1999 Sept; 80:1153.
8. **Osborne MD**, Laskowski ER. Leg pain - dance line cheerleader. Med Sci Sports Exerc. 2000 May; 32(5 Suppl):S295.
9. Rho RH, **Osborne MD.** Shoulder injury: Tennis. Med Sci Sports Exerc. 2001 May; 33(5 Suppl):S47.
10. Shapiro SA, Ejaz AA, Taylor WC, **Osborne MD**, Wasiluk A. Moderate exercise induced hyponatremia. J Am Soc Nephrol. 2003 Nov; 14(Abstracts Issue):801A.
11. Kurmen Figueroa DA, **Osborne MD.** Radiofrequency Denervation of the Lumbar Zygapophysial Joints in Patients with Deep Brain Stimulator. Arch Phys Med Rehabil. 2008 Nov; 89:E80.

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