

## Harry Alexander Hoyen, III, M.D.

### Work Address:

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Metro Health Medical Center  
Department of Orthopaedic Surgery  
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Cleveland, Ohio 44109  
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216-778-4690 Fax  
hhoyen@metrohealth.org

### Education and Training:

#### Fellowship:

August 1998-February 1999 AO International Trauma/Shoulder Fellowship  
University of Zurich, Department of Orthopaedic Surgery  
Zurich, Switzerland

August 1997-July 1998 Tri-Affiliate Hand Fellowship Program; Cleveland, Ohio  
Department of Orthopaedic Surgery  
The Cleveland Clinic Foundation  
University Hospitals of Cleveland  
MetroHealth Medical Center

July 1992-June 1997 Internship/Residency  
Case Western Reserve University,  
University Hospitals of Cleveland  
Departments of Surgery and Orthopaedic Surgery

August 1988-May 1992 M.D., Medical College of Wisconsin  
Milwaukee, Wisconsin

May 1988 B.S., Biological Sciences and Zoology  
Summa Cum Laude Graduate

1985- May 1988 University of Wisconsin at Milwaukee  
Target M.D. Program

### Professional Appointments:

Instructor- Dept. of Orthopaedic Surgery 7/2000-6/2003  
Assistant Professor-Dept. of Orthopaedic Surgery 6/2003-6/2010  
Associate Professor-Dept. of Orthopaedic Surgery 7/2010-present  
Co-director- Cleveland Combined Hand Fellowship 6/2003- present  
- Cleveland Clinic Foundation and MetroHealth Medical Center

**Licensure:**

July 1993                      *National Board Medical Examiners*  
December 1994                *Ohio State Medical License #67883*  
07/12/01-12/31/11            *American Board of Orthopaedic Surgery*  
08/26/02-12/31/12            *Certificate of Added Qualification in Hand Surgery*

**Memberships:**

American Academy of Orthopaedic Surgery (AAOS)  
American Society of Surgery of the Hand (ASSH)  
The Herndon Society  
Cleveland Orthopaedic Society  
AO North America

**Honors:**

Young Investigator Award  
US Bone and Joint Decade, Orthopaedic Surgery  
2005-2006

Alpha Omega Alpha Honor Society, Wisconsin Chapter  
National College Graduate Student Government Award  
AAMC National Delegate  
Senior Merck Manual Academic Award

Phi Beta Kappa Honor Society  
Phi Eta Sigma Honor Society and Scholarship Recipient  
Varsity Tennis, Milwaukee Flyers Senior A Hockey Club

**Activities:**

Student Affairs; Student and Faculty Assemblies  
MCW/Marquette University Intramural Director  
Marquette University Varsity Hockey Club, Graduate Student

**Committees:**Case Western Reserve University School of Medicine:

Department of Orthopaedic Surgery Representative for Faculty Council  
Steering Committee for Faculty Council

American Society of Surgery of the Hand, national committees:

Outcome Studies, 2003-2005, Translational research, 2003-2005, Multicenter  
Task Force Committee 2005-2006, Young Members Steering Committee, 2005-  
2006.

Self- Assessment Exam Committee 2006-2008 (present)  
AO North America Hand CME Committee 2008 (present) (chairman)  
ASSH Self Assessment Examination Committee 2008 (present)



## Teaching Activities:

### Postgraduate/Fellow Education:

Cleveland Combined Hand Fellowship, two fellows  
Cleveland Clinic Foundation  
MetroHealth Medical Center  
ACGME accredited one year training in hand surgery  
Fellowship co-director, 2003-2006  
AO North America - faculty

### Resident Education:

Department of Orthopaedic Surgery, Division of Hand Surgery  
MetroHealth Medical Center  
Role- Director: resident clinical service  
Direct resident education in outpatient, inpatient, operative services  
PGY 4 resident, six residents for each academic year  
Allen Fellow: Dan Master PGY 1  
Department of Orthopaedic Surgery Case Medical School 2007-2008  
project: Peripheral nerve transfer below a rodent spinal cord injury

### Graduate Student Teaching:

- 1) Katie Polasek, 2003-2006  
Investigation- Spiral Nerve Cuff Development for Intraoperative Monitoring and Advanced Neuroprosthesis.  
Role- Clinical project coordinator and advisor  
Project- Product IDE development, IRB PI, basic science Department of Biomedical Engineering, PhD committee
- 2) Sreenath Narayan, 2005-2006  
Investigation- Nerve transfer below Spinal Cord Injury- Rodent  
Role- Basic Science director and advisor  
Project- Novel Rodent SCI model for evaluation of nerve transfer below the level of Spinal Injury, basic science Department of Biomedical Engineering, Master Committee, MS Fall 2005
- 3) Thomas Cowan 2007-2008 (Present)  
Investigation- Peripheral reinnervation below spinal cord injury  
Role- Advisor and Basic Science Animal Surgery Coordinator  
Project- Nerve transfers, long term effects below spinal cord injury and stem cell implantation, basic science department of Biomedical Engineering and Case Medical School, MSTP student (MD/PHD)

Undergraduate Teaching:

Chester Scholar Advisor and clinical partner  
MetroHealth Medical Center

- 1.) Craig Dimitris- 2003  
Passive properties of the Distal Radial Ulnar Joint
- 2.) Laura Armbruster- 2004  
Intraoperative Evaluation of nerve injuries with novel nerve cuff design

**Present Research:**

NIH – NINDS (Kilgore, K – PI) ROI EB – 002091 6/1/04 – 5/31/07, 5/1/07- 4/30/11  
*A Novel Waveform for Electrical Nerve Conduction Block*

The specific aims of this project are: 1) determine if the chronic block of nerve conduction is damaging to the nerve, 2) determine the specific parameters necessary to provide motor and sensory block in humans, and 3) complete the technical and regulatory effort necessary to proceed to widespread human application of this technique.

5% effort allotted

NIH – NINDS-05-03 (Kirsch, R- PI) 10/1/05 – 9/30/10  
NIH/NINDS

*Restoration of Hand and Arm Function by Functional Neuromuscular Stimulation*

(Note that while this is not a renewal of the previous project (NO1-NS-1-2333), this project carries on with similar work, Dr. Hoyen was 10% effort on this contract from 2001-2005)

The major goal of this project is to develop and deploy upper extremity neuroprostheses for individuals with all levels of cervical spinal cord injuries. In particular, this project will deploy a new generation of implantable devices that can be combined in different ways to serve individuals with different levels of cervical spinal cord injury. It will investigate the use of EMG-based “effortless” control for individuals with C5-C6 level injuries and the use of feedback control of arm position for individuals with C4 and higher spinal cord injuries.

10 % effort allotted

Coulter Foundation: 4/1/06 – 4/30/08

*Classification and treatment of shoulder movement disorders*

Basic Science PI: R. Kirsch, PhD and Clinical PI: Harry Hoyen, MD.

This investigation will evaluate scapular mechanics as it relates to pathologic scapular conditions such as scapular winging. This information will be used to formulate innovative management strategies since present interventions have limitations. Through coordination with NDI Medical, this translational research will lead to the development of a neuroprosthesis for scapular reanimation.

Industrial Funding: 1/07 – present/ongoing

#### Biomechanical Properties of Platelet Concentrates:

Basic science project supported through a restricted educational grant from Biomet Corp., Warsaw, IN.

Investigation to evaluate the tensile strength of autogenous platelet concentrates for clinical application. Different combinations of fibrin and platelets are evaluated to determine the biomechanical characteristics. Human serum is used for the testing. The goal is to develop an autologous fibrin sealant and adhesive for clinical use.

#### Unfunded Research:

Randomized Prospective Study: Treatment of Clavicle shaft fractures

Multicenter national study

Principal Investigator, Study Coordinator, MetroHealth Medical Center

Prospective Study: Operative Treatment of Obstetrical Brachial Plexus Birth Palsy

Multicenter national study

Principal Investigator, Study Coordinator, MetroHealth Medical Center

Prospective Study: Evaluation of a custom hands free stimulating electrode array for intraoperative evoked responses in the brachial plexus

Principal Investigator, Study Coordinator, MetroHealth Medical Center

#### Submitted:

Passive motion properties of the DRUJ- cadaveric simulation of instability

Principle Investigator, Study Coordinator with Adam Mirachi, MD PGY-5 resident, Department of Orthopaedic Surgery, Case Medical School

#### **Publications:**

Mirachi A, Knutson JS, **Hoyen** HA: A cadaveric biomechanical analysis of the distal radio-ulnar joint: Influence of wrist isolation on accurate measurement and the effect of ulnar styloid fracture on stability (Ulnar styloid fracture affects DRUJ stability). In press, Journal of Hand Surgery (American), 2008

Kilgore KL, **Hoyen** HA, Bryden AM, Hart RL, Keith MW, Peckham PH: An Implanted Upper Extremity Neuroprosthesis Utilizing Myoelectric Control. In press, Journal of Hand Surgery (American), 2008.

Knutson JS, **Hoyen** HA, Kilgore KL, Peckham PH: Simulated neuroprosthesis state activation and hand-position control using myoelectric signals from wrist muscles. J of Rehab Res & Dev 41:3B, 416-472, 2004

**Hoyen** HA, Keith MW: Chapter 26 The surgical treatment of the Upper Limb in Tetraplegia. In Hand Surgery Update 3, Thomas Trumble MD Editor, American Society for Surgery of the Hand, 2003.

Keith MW, **Hoyen** HA: Indications and future directions for upper limb neuroprostheses in the tetraplegic patients: a review. Hand Clinics of North America 18: 519-528, 2002.

**Hoyen** HA, Williams P, Gonzalez E, Keith MW: Management of the paralyzed elbow in tetraplegia. Hand Clinics 18: 113-133, 2002

**Hoyen** HA, Lacey SH, Graham TJ: Atypical Hand Infections. Hand Clinics 14:4, 1998

**Hoyen** HA, Thompson GH: Tibialis Anterior Transfer after Clubfoot Surgery. Pediatrics, 98: S3, 563-564, 1996

**Hoyen** HA, Alpert J: The Role of Angiotensin Converting Enzyme Inhibitors in the Treatment of Hypertension and Heart Failure. Cardiology 82: S1, 3-19, 1993

Willis J, Hicks D, Sickel J, Jensen K, Rosier R, **Hoyen** HA, Dawson A: Proliferating Cell Nuclear Antigen (PCNA) Expression in Malignant Fibrous Histiocytoma: An immunocytochemical study of 18 cases. Laboratory Investigation 66: 58A, 1992

Chung KC, **Hoyen** HH: Hand And Upper Extremity Reconstruction: A Volume in the Procedures in Reconstructive Surgery Series: The Management of Extensor Tendon Injuries.

Thompson GH, **Hoyen** HA, and Barthel T: Clinical orthopaedics and related research 467(5): 1306-13, 2009 May

Evans PJ, Nandi S, Maschke S, **Hoyen**, HA, and Lawton JN: The Journal of hand surgery 34(4):769-78, 2009 April

Mirarchi AJ, **Hoyen** HA, Knutson J, and Lewis S: The Journal of hand surgery 33(5):683

Kilgore KL, **Hoyen** HA, Bryden AM, Hart RL, Keith MW, and Peckham PH: The Journal of hand surgery 33(4):539-50, 2008 April

Polasek KH, **Hoyen** HA, Keith MW, and Tyler DJ: IEEE transactions on neural systems and rehabilitation engineering: a publication of the IEEE Engineering in Medicine and Biology Society 15(1):76-82, 2007 March

Kilgore KL, Hart RL, Montague FW, Bryden AM, Keith MW, **Hoyen** HA, Sams CJ, and Peckham PH,: Annual international Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society, Conference 1:1630-3 2006

Polasek KH, **Hoyen** HA, Keith MW, Kirsch RF, and Tyler DJ: Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 1:3584-7, 2006

Knutson JS, **Hoyen** HA, Kilgore KL, and Peckham PH: Journal of rehabilitation research and development 41(3B):461-72, 2004 May

Polasek KH, **Hoyen** HA, Kirsch RF, and Tyler DJ: Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 6:4137-40, 2004

**Hoyen** HA, Lacey SH, and Graham TJ: Hand clinics 14(4):613-34, ix, 1998

**Hoyen** HA and Alpert JS: Cardiology 82 Suppl 1:3-19, 1993

Master D, **Hoyen** HA: Paralyzed Nerve Transfer for Denervation: A Case Report. Orthopaedic Journal/Case Western Reserve University 5(1): 38-39, 2008

Master D, Kirsch RF, and **Hoyen** HA: Paralyzed Nerve Transfer for Denervation: Histological Results from an Animal Model. Orthopaedic Journal/Case Western Reserve University 5(1) 58-59, 2008

**In preparation:**

Narayan S, Kirsch R, **Hoyen** HA: Peripheral Nerve Transfer below the Level of Spinal Cord Injury

Kilgore K, **Hoyen** HA, Keith MW, Peckham H: Upper Extremity Neuroprosthesis development and IST-12 Implantation

**Presentations:**

Hoyen HA

Peripheral Nerve Stimulation for the Upper Extremity: The Role of the Hand Surgeon in the Treating Patients with Chronic Pain.

IFESS/Neuromodulation Meeting. Luzern, Switzerland, September 1998

Hoyen HA

Peripheral Nerve Stimulation for Chronic Pain Disorders.

IFESS/Neuromodulation Meeting. Luzern, Switzerland, September 1998

Hoyen HA

Peripheral Nerve Stimulation for Chronic Regional Pain Syndrome.

6th FESSH Precongress Meeting.

Heidelberg, Germany, May 1999.



Hoyen HA  
Management of the Severely Injured Upper Extremity  
MetroHealth Life Flight Trauma Symposium, Cleveland, Ohio May 2000

Hoyen HA  
The Role of Functional Electrical Stimulation in the Management of Tetraplegia  
Joint Symposium- The University Orthopaedic Surgeons/Cooper Hospital and Magee  
Rehabilitation Hospital. Philadelphia, Pennsylvania, May 2000

Hoyen HA  
Strategies for the high cervical tetraplegia  
4th International Symposium on Experimental Spinal Cord Repair and Regeneration  
Brescia, Italy, March 2002

Hoyen HA  
Nerve Transplantation following Brachial Plexus Injuries  
International Shoulder Group,  
Cleveland, OH June 2002

Hoyen HA  
First Annual Hand Surgery Symposium and Duncan Lecture:  
Flexor Tendon Injuries  
Cleveland, OH April 2003

Hoyen HA  
Trauma Symposium- Complex Elbow Instability  
Cleveland, OH May 2003

Hoyen HA  
Regional Trauma Summit: Locked Plating in the Upper Extremity  
Management of Distal Radius Fractures  
Toledo, OH February 2004

Hoyen HA  
Case Medical School, Department of Orthopaedic Surgery  
Grand Rounds- Elbow Dislocations/Instability  
Cleveland, OH February 2004

Hoyen HA  
Combined Australia-New Zealand Society of Hand Surgery  
Keynote Address  
Traumatic Brachial Plexus Injury- Neural Assessment  
Christchurch, New Zealand  
February, 2004

Hoyen HA  
6<sup>th</sup> International Society for Management of Tetraplegia  
Management of High Tetraplegia- Biologic Approach  
Christchurch, New Zealand  
February, 2004

Hoyen HA  
Neuromodulation of Spasticity  
5<sup>th</sup> International Symposium on Experimental Spinal Cord Repair and Regeneration  
Brescia, Italy March 2004

Hoyen HA  
Universite Libre De Bruxelles Hospital Erasme-  
12<sup>th</sup> Brussels International Symposium  
Advances in Peripheral Nerve Surgery and Regeneration  
New Frontiers- Neuromodulation for spasticity  
March 2004

Hoyen HA  
Cleveland Clinic Orthopaedic Symposium Series- Fractures of the Coracoid, Acromion  
and Body of the Scapula and Case Presentations: Fractures of the Scapula  
Cleveland, OH April 2004

Hoyen HA  
Southwest General Health Center Life Works  
Review Pathoanatomy and mechanisms of injury  
Determine the appropriate treatment based on the injury patterns  
Analyze post-operative rehabilitation and complications  
Cleveland, OH September 2004

Hoyen HA  
Erbs's Palsy-Anatomy of the Brachial Plexus, Discuss pathophysiology of the Neuroma,  
and Outline Treatment Programs and Define Outcomes  
Maternal/Fetal Department Symposium  
Case Medical School, MetroHealth Medical School  
Cleveland, OH September 2004

Hoyen HA  
Intraoperative evaluation of traumatic brachial plexus injuries  
Narakas Society  
Brescia, Italy October 2004

Hoyen HA  
Case Medical School- Department of Orthopaedic surgery  
Grand Rounds- Infections of the Hand  
Cleveland, OH November 2004

Hoyen HA  
Regional Trauma Summit: Locked Plating  
Management of Distal Radius Fractures  
Cleveland, OH February 2005

Hoyen HA  
Universite Libre De Bruxelles Hospital Erasme-  
13<sup>th</sup> Brussels International Symposium  
Impaired motion of the upper limb  
1.) Scapular Winging from Long Thoracic Palsy  
2.) Use of functional electrical stimulation  
Brussels, Belgium March 2005

Hoyen HA  
Universite Libre De Bruxelles Hospital Erasme-  
13<sup>th</sup> Brussels International Symposium  
Surgical Dissection and Instruction- Practical Course/Video presentation  
Elbow extension procedures for Tetraplegia  
Brussels, Belgium March 2005

Harry HA  
Duncan Lecture-Brachial Plexus Reconstruction  
Cleveland, OH May 2005

Hoyen HA  
Grand Rounds-Carpal Fractures and Instability  
Cleveland, OH September 2005

Hoyen HA  
University Alabama-Birmingham Department of Physical Medicine and Rehabilitation  
Grand Rounds  
Treatment strategies for High Tetraplegia  
Birmingham, AL October 2005

Hoyen HA  
Treatment of Brachial Plexus Injuries  
Columbus, OH December 2005

Hoyen HA  
Treatment Options for Difficult Fractures  
Cleveland, OH February 2005

Hoyen HA  
Pittsburgh Crucial Elements Hand Surgery Course-Nerve Compression-Brachial Plexus  
Pittsburgh, PA February 2006

Hoyen HA  
Regional Trauma Summit, Locked Plating Update  
Management of Distal Humerus Fractures  
Cleveland, OH March 2006

Hoyen HA  
American Academy of Orthopaedic Surgery- annual meeting  
Orthopaedic Rehabilitation Association- Brachial Plexus Injury: Natural History,  
Evaluation and Treatment Options  
Chicago, March 2006

Hoyen HA  
Treatment options for difficult fractures and advanced technology symposium  
Internal Fixation of Upper Extremity Fractures  
March 2006

Hoyen HA  
Treatment Options for Difficult Fractures  
Internal Fixation of Upper Extremity Fractures  
Cleveland, OH March 2006

Hoyen HA  
Elbow: lateral collateral ligament reconstruction- new materials and techniques  
New Technology in Upper Extremity Surgery  
The Cutting Edge  
June 2006

Hoyen HA  
Orthopaedic Rehabilitation Association Annual Meeting  
Marco Island, FL June 2006

Hoyen HA  
FES applications in Tetraplegia- live patient presentations  
The Annual Combined Annual Meeting of the American Spinal Injury Association  
June 2006

Hoyen HA  
21<sup>st</sup> Annual Neural Engineering & Rehabilitation Lectures  
Cleveland, Ohio June 2006

Hoyen HA  
National Institute of Neurological Disorders and Stroke  
Bethesda, Maryland August 2006

Hoyen HA  
Poster presentation:  
61<sup>st</sup> Annual Meeting American Society for Surgery of the Hand  
Washington DC September 2006

Hoyen HA  
Forum on the Future of Regenerative Sports Medicine  
Graft Jacket Regenerative Tissue Matrix  
Las Vegas, NV November 2006

Hoyen, HA  
6<sup>th</sup> International Symposium on Experimental Spinal Cord Repair and Regeneration  
Brescia, Italy December 2006

Hoyen HA  
Elbow ligament reconstruction  
2<sup>nd</sup> Annual Meeting of the Graft Jacket Science Forum  
Phoenix, Arizona March 2007

Aaron Anderson & Harry A. Hoyen  
Intraoperative Evaluation of Nerve Injuries  
5<sup>th</sup> Annual Cleveland Combined Hand Fellowship Grand Rounds and Duncan Lecture  
Cleveland, OH May 2007

Hoyen HA  
Replantation Update for the Upper Extremity 2007  
New Technology in Upper Extremity Surgery: The Cutting Edge  
Cleveland, OH May 2007

Hoyen HA  
FES in High Tetraplegia  
FES Course at the International Spinal Cord Society Annual Meeting  
Reykjavik, Iceland June- July 2007

Hoyen HA  
Restoration of hand function and trunk control with an Advanced Neuroprosthesis  
Grand Rounds, University of Heidelberg, Department of Orthopaedic Surgery  
Heidelberg, Germany July 2007

Hoyen HA  
Elbow/Shoulder/Wrist Trauma and Arthroplasty  
Henderson, Nevada August 2007

Hoyen HA  
International Meeting on Upper Limb in Tetraplegia  
Trunk control in tetraplegia  
Philadelphia, PA September 2007

Kilgore KL and Hoyen HA  
Live patient presentations- FES in upper extremity hand restoration  
AAPM&R 68 Annual Meeting,  
Boston, Massachusetts September 2007

Hoyen HA  
Ligament Augmentation for Elbow Stability  
Graft Jacket Symposium  
Chicago, OH September 2007

Hoyen HA  
AO North America Midwest Regional Fracture Summit  
Surgical Management of Distal Radius Fractures  
The Management of Complex Elbow Injuries  
Cleveland, OH September 2007

Brent Bickel & Harry A. Hoyen  
Japanese Traveling Fellows Symposium  
Forearm Median Nerve Repair with Conduit  
Cleveland, Ohio October 2007

Hoyen HA  
2007 AO North America Musculoskeletal Trauma Faculty Development Forum  
Scottsdale, Arizona November 2007

Hoyen HA  
Treatment Options for Difficult Fractures Advanced Technology Symposium  
For Residents  
Shaker Heights, Ohio November 2007

Hoyen HA  
2008 Synthes hand and Upper Extremity Think-Tank  
Denver, Colorado January 2008

Hoyen HA and Jupiter JJ  
Management of distal radius and olecranon fractures, lab demonstration  
10<sup>th</sup> Annual Hand Surgery Symposium: Hand Rehabilitation Foundation  
Philadelphia, PA March 2008

Hoyen HA  
AO North America Continuing Medical Education  
AO Hand and Wrist Fracture Management Course  
Phoenix, Arizona April 2008

Hoyen HA  
2008 New Technology in Upper Extremity Surgery  
The Cutting Edge  
Cleveland, OH May 2008

Hoyen HA  
MetroHealth Medical Center Trauma Symposium  
Cleveland, OH May 2008

Hoyen HA  
AO North America Department of Continuing Medical Education  
Advanced Principles and Techniques of Operative Fracture Management Course  
Marco Island, Florida June 2008

Hoyen HA  
38<sup>th</sup> Neural Interfaces Conference  
Cleveland, OH June 2008

Hoyen HA  
ASSH 63<sup>rd</sup> Annual Self-Assessment Examination Committee  
Chicago, Illinois September 2008

Hoyen HA  
Ao North America Annual Meeting  
Denver, Colorado October 2008

Hoyen HA  
Synthes Annual Fall Meeting  
Tucson, Arizona 11/2008

Hoyen HA  
The Second Annual Upper Extremity Trauma Symposium for Residents  
Cleveland, Ohio 11/2008

Hoyen HA  
XVI International Symposium on Brachial Plexus Club-A-Narakas  
Luxemburg 5/2009

Hoyen HA  
2<sup>nd</sup> Annual Hand and Upper Extremity Think Tank  
Vail, Colorado 1/2009



Hoyen HA  
7<sup>th</sup> International Symposium on Experimental Spinal Cord Repair and Regeneration  
Brescia, Italy 2/2009

Hoyen HA  
CUER Conference  
San Diego, California 3/2009

Hoyen HA  
8<sup>th</sup> Annual New Technology in Upper Extremity Surgery: The Cutting Edge  
Cleveland, Ohio 6/2009

Hoyen HA  
AOCME Meeting  
Philadelphia, PA 7/2009

Hoyen HA  
Spokane Hand & Upper Extremity Course  
Spokane, WA 8/2009

Hoyen HA  
Radial Head Lab  
West Chester, PA 8/2009

Hoyen HA  
2009 ASSH Meeting "Variable Angle Locking for Distal Radius Fracture"  
San Diego, California 9/2009

Hoyen HA  
Indiana Hand Center Hand and Wrist Workshop  
Indianapolis, IN 9/2009

Hoyen HA  
IDE Training  
Cleveland, OH 10/2009

Hoyen HA  
Upper Extremity Dissection Course  
Phoenix, AZ 11/2009

Hoyen HA  
AO North America Advanced Principles and Techniques of Operative Fracture  
Management  
Phoenix, AZ 1/2010

Hoyen HA  
CMEAB/ECVSC 2010 Meeting  
Chicago, 1/2010

Hoyen HA  
3<sup>rd</sup> Annual Synthes Hand and Upper Extremity Think Tank  
Park City, Utah 2/2010

Hoyen HA  
Stryker Lab Philadelphia Hand Meeting  
Philadelphia, PA 3/2010

Hoyen HA  
AO North America Hand and Wrist Fracture Management Course Mobility-  
Motion\_Function  
Orlando, Florida 4/2010

Hoyen HA  
AO Advanced Principles and Techniques of Operative Fracture Management Course  
Marco Island, Florida 6/2010

Hoyen HA  
7<sup>th</sup> Triennial Hand & Wrist Biomechanics Symposium & the 10<sup>th</sup> Annual New  
Technology in Hand & Upper Extremity Surgery: The Cutting Edge  
Cleveland, OH 6/2010

Hoyen HA  
AO North America Nursing Continuing Education  
Cleveland, OH 7/2010

Hoyen HA  
International Meeting on Surgical Rehabilitation of the tetraplegic Upper Limb  
Paris, France 9/2010

Hoyen HA  
AO Management of the Geriatric Fracture Patient  
Scottsdale, Arizona 9/2010

Hoyen HA  
65<sup>th</sup> Annual Meeting of the American Society for Surgery of the Hand  
Boston, MA 6/2010

Hoyen HA  
AO CME Board  
10/2010

Hoyen HA  
AONA 2010 Challenges in Fractures Care Across Disciplines  
Scottsdale, AZ 11/2010

Hoyen HA  
Top Doctors Event  
Cleveland, OH 3/2011

Hoyen HA  
AO North America Hand Committee Meeting  
Miami, Florida 3/2011

Hoyen HA  
Doctors Demystify the Shoulder for OTs and PTs  
Cleveland, OH 4/2011

Hoyen HA  
Advanced Upper Extremity Cadaver Course  
Miami, Florida 5/2011

Hoyen HA  
ASIA ISCOS 2011  
Washington, DC 6/2011

Hoyen HA  
2011 Synthes Trauma Fall Annual Meeting  
Tuscon, Arizona 11/14/11

Hoyen HA  
Stryker November Phoenix Meeting  
Phoenix, Arizona 11/2011

Hoyen, HA  
Davos, Switzerland 12/2011

### **Abstracts**

Mirachi A, Hoyen HA: Passive Motion Properties of the DRUJ- anatomical study, Poster presentation, American Society of Surgery of the Hand annual resident and fellow meeting, September 2005

Mirachi A, Hoyen HA: Passive Motion Properties of the DRUJ- anatomical study, Presented at the annual meeting Ohio Orthopaedic Society, 1<sup>st</sup> place resident paper/presentation, May 2005

Kirsch, RF, Tyler, D., Taylor, D, Hoyen, HA, Crago, PE, Memberg, WD, Peckham, PH, Mortimer, JT, Kilgore, KL, and Keith. MW: Restoration of Hand and Arm Function by Functional Neuromuscular Stimulation. 2005 Neural Interfaces Workshop, National Institutes of Health, Bethesda MD. September 2005.

Polasek K, Kirsch R, Hoyen H, and Tyler D: Intraoperative Testing of Selective Nerve Cuff Electrodes for Neuroprostheses, presented at NIH Neural Prosthetics Workshop, Bethesda MD, November 15-17, 2004.

Polasek, KH., Hoyen, HA., Keith, MW., Kirsch, RF., Tyler, DJ. Intraoperative Testing of Selectivity of Spiral Nerve Cuff Electrodes. 2<sup>nd</sup> International IEEE EMBS Conference on Neural Engineering, Washington DC. March 2005.

Polasek KH, Hoyen HA, Keith MW, Kirsch RF, Tyler DJ: Intraoperative Testing of Selectivity of Spiral Nerve Cuff Electrodes. 10<sup>th</sup> Annual International Functional Electrical Stimulation Society Conference, Montreal, Canada. July 2005.

Polasek, KH, Kirsch, RF, Keith, MW, Hoyen, HA, and Tyler, DT: Intraoperative Testing of Selective Nerve Cuff Electrodes for Neuroprostheses. 2005 Neural Interfaces Workshop, National Institutes of Health, Bethesda MD. September 2005.

Polasek K, Kirsch R, Hoyen H, Keith M, and Tyler D. Intraoperative Testing of Selective Nerve Cuff Electrodes for Neuroprostheses, presented at Research ShowCase, Cleveland OH., 2005

Polasek K, Kirsch R, Hoyen H, Keith M, and Tyler D. Intraoperative Testing of Selective Nerve Cuff Electrodes for Neuroprostheses, presented at Neural Engineering Research Lectures, Cleveland OH, June 3, 2005

Polasek K, Kirsch R, Hoyen H, Keith M, and Tyler D. Chronic Human testing of Nerve Cuff Electrodes for an Upper Extremity Neuroprosthesis, presented at Case Biomedical Engineering Research Day, October 15, 2005.

Hoyen HA, Thompson GH: Tibialis Anterior Transfer after Clubfoot Surgery. Presented, International Clubfoot Symposium, Denmark, 1996 and American Academy of Pediatrics; section of Orthopaedic Surgery. Boston, Massachusetts, 1996

Rosier R, Hicks D, Puzas J, O'Keefe R, Hoyen HA: Multidrug Resistance Gene Expression in Ewing's Sarcoma. Presented, American Orthopaedic Association. San Diego, California, 1993

Phillips F, Carlson G, Hoyen HA, Bohlman H: Anterior Cervical Pseudarthrosis: Factors of Disease. Presented, Cervical Spine Research Society. Sante Fe, New Mexico, 1995

**Personal Data:**

Birthplace: Ithaca, New York  
Birth Date: June 5, 1967  
Citizenship: U.S.A.  
Marital Status: Married

Revised 12/11