

CURRICULUM VITAE
Edward J. W. Shields, M.D.

OFFICE: Orthopaedic Associates of Muskegon
1400 Mercy Drive, Suite 100
Muskegon, MI 49444
Phone: 231.733.1326
Joined Orthopaedic Associates in August 2017

PERSONAL DATA: Birth date: August 12, 1985
Birthplace: Muskegon, MI

SPECIALTY: Orthopaedic Surgery

EDUCATION: Shoulder and Elbow Reconstruction Fellowship
Beaumont Health, Royal Oak, MI. Director: J. Michael Wiater, MD
8/2016 - 7/2017

Orthopaedic Surgery Residency, University of Rochester Medical Center;
Rochester, NY. Director: John T. Gorczyca, MD
6/2011 - 6/2016

M.D., Wayne State University School of Medicine, Detroit, MI
With High Distinction, Alpha Omega Alpha
8/2007 - 6/2011

B.S., Central Michigan University, Mount Pleasant, MI
Graduated Summa Cum Laude
8/2003 - 5/2007

LICENSES: USMLE (Identification # 52173192)
Step 1- Passed (June 2009)
Step 2- Passed (July 2010)
Step 2 CS- Passed (June 2010)
Step 3- Passed (February 2012)

American Board of Orthopaedic Surgery (ABOS) Eligible

Michigan State Medical License (2016-present)

HOSPITAL PRIVILEGES: 2017-Present Mercy Health Partners, Muskegon, MI

2017-Present Muskegon Surgery Center, Muskegon, MI

2017-Present North Ottawa Community Hospital, Grand Haven, MI

PROFESSIONAL
ASSOCIATIONS/
MEMBERSHIPS:

American Academy of Orthopaedic Surgeons
Michigan Orthopaedic Society
Alpha Omega Alpha Medical Honors Society
American Medical Association
American Shoulder and Elbow Surgeons Candidate Member

HONORS/AWARDS: *Fellowship*

Michigan Orthopaedic Society Annual Meeting 1st place Scientific Paper (June 2017)

Residency

J. Edward Puzas Award (Most outstanding Clinical Science Research Paper; May 2016)

Strong Memorial Hospital Strong Star Recipient (Fall 2013)

Medical School

Year IV awards: Elvis Smith Alford, M.D. and Nellie Corbin Alford Endowed Memorial Scholarship (academic excellence); Saul Brown Award (excellence in Pathology); Distinction in Biomedical Research (2011)

Overall Year I, II, III, and IV Medical School Honors

Medical Alumni Sophomore scholarship award (highest academic achievement for combined years I and II, May 2010)

Academic Achievement Award Year II of medical school (awarded in fall 2009 for #1 class rank in class academic standings)

Alpha Omega Alpha (October 2009)

Dr. William Stapleton, Jr. Freshman Scholarship Award (# 1 rank in class academic standings for Year I of medical school, January 2009)

Academic Achievement Award Year I medical school (# 1 rank in class academic standings awarded fall of 2008)

Medical Student Alumni Summer Research Grant Recipient (Summer 2008)

Wayne State University School of Medicine Merit Scholarship (full tuition scholarship, awarded spring 2007)

Undergraduate

CMU Honors Program Outstanding Senior Project Award Recipient (2007)

Summer Scholars research grant (CMU, 2005)

Outstanding performance in Chemistry 345-346 (awarded to 1 individual out of all taking organic chemistry; 2004-2005 academic year, CMU) Outstanding performance in Chemistry 131-132 (awarded to 2 individuals out of the 600 students who take the course; 2003-2004 academic year, CMU)

Mortar Board Senior Honor Society top 10 finalist for CMU freshman of the year award (2004)

Jette Macneil endowed scholarship award; Olive Hutchinson Kries memorial scholarship; Don Kelsey memorial Scholarship; Academic excellence scholarship; CMU board of trustee's academic scholarship

RESEARCH
EXPERIENCE:

Orthopaedic Research Lab at William Beaumont Hospital, Royal Oak, MI.
2016 - 2017

Center for Musculoskeletal Research, University Rochester Medical Center,
Rochester, NY.
2011 -2016

Orthopaedic Research Lab at William Beaumont Hospital, Royal Oak, MI.
2009 - 2011

Research Assistant for Dr. Harry Goshgarian at Wayne State University
School of Medicine, Detroit, MI. 2008

Research Assistant for Dr. Jonathan Kelty at Central Michigan University,
Mt.Pleasant, MI. 2003 - 2007

Research Assistant for Dr. Rochelle Hueberger at Central Michigan
University, Mt. Pleasant, MI. 2003

EDITORIAL/
REVIEWER
ACTIVITIES:

Journal of Geriatric Orthopaedic Surgery and Rehabilitation
active

PUBLICATIONS/

PEER REVIEWED PUBLICATIONS

PRESENTATIONS/
ABSTRACTS:

Shields E, Koueiter D, Maerz T, Schwark A, Wiater JM. The Effect of Previous Rotator Cuff Repair on Clinical Outcomes after Reverse Total Shoulder Arthroplasty. *Orthopaedic Journal of Sports Medicine*, 2017; Accepted.

Shields E, Ho A, and Wiater JM. Subscapularis Tendon Management During Anatomic and Reverse Total Shoulder Arthroplasty. *Minerva Ortopedica E Traumatologica*, 2017; Accepted.

Thorsness R, **Shields E**, Owens K, Gorczyca J, Voloshin I. Open Reduction and Internal Fixation Versus Hemiarthroplasty in the Management of Complex Articular Fractures and Fracture-dislocations of the Proximal Humerus. *Journal of Shoulder and Elbow Arthroplasty*, 2017; Accepted.

Shields E, Ho A, and Wiater JM. Management of the Subscapularis Tendon During Total Shoulder Arthroplasty. *Journal of Shoulder and Elbow Surgery*, 2017; Apr;26(4):723-731.

Shields E, Thirukumaran C, Thorsness R, Noyes K, and Voloshin I. Patient Factors Influencing Return to Work and Cumulative Financial Claims After Clavicle Fractures in Workers Compensation Cases. *Journal of Shoulder and Elbow Surgery*, 2016;25(7):1115-21.

Thorsness R, **Shields E**, Iannuzzi J, Zang L, Noyes K, Voloshin I. Cost Drivers after Surgical Management of Proximal Humerus Fractures in Medicare Patients. *Journal of Orthopaedic Trauma*, 2016;30(5):262-8.

Shields E, Sundem L, Childs S, Maceroli M,; Humphrey C, Ketz JP, Gorczyca JT. The Impact of Residual Angulation on Patient Reported Functional Outcome Scores after Non-operative Treatment for Humeral Shaft Fractures. *Injury*, 2016;47(4):914-8.

Ketz JP, Maceroli M, **Shields E**, Sanders R. Peroneal Tendon Instability in Intra-Articular Calcaneus Fractures: A Retrospective Comparative Study and a New Surgical Technique. *Journal of Orthopaedic Trauma*, 2016;30(3):e82-7.

Shields E, Behrend C, Beiswenger T, Strong B, English E, Maloney M, Voloshin I. Scapular Dyskinesia Following Displaced Fractures of the Middle Clavicle. *Journal of Shoulder and Elbow Surgery*, 2015;24(12):e331-6.

Thorsness R, Iannuzzi J, Shields E, Noyes K, Voloshin I. The Cost-Effectiveness of Open Reduction and Internal Fixation Compared with Hemiarthroplasty in the Management of Complex Proximal Humerus Fractures. *Journal of Shoulder and Elbow Surgery*, 2015;24(8):232-

33.

- Kates S, **Shields E**, Behrend C, Noyes K. Financial Implications of Hospital readmission after hip fracture. *Geriatric Orthopaedic Surgery and Rehabilitation*, 2015 March; On-line publication, doi: 10.1177/2151458515578265
- Shields E**, Sundem L, Childs S, Maceroli M, Humphrey C, Ketz J, and Gorczyca J. Factors Predicting Patient Reported Functional Outcomes following Humeral Shaft Fractures. *Injury*, 2015;46(4): 693-8.
- Shields E**, Olsen J, Miller R, Rouse L, Maloney M, Voloshin I. A Comparison of a Single Incision Technique using Cortical Button with Interference Screw versus a Double Incision Technique using Suture Fixation through Bone Tunnels for Distal Biceps Brachii Tendon Repairs. *American Journal of Sports Medicine*, 2015;43(5):1072-6.
- Shields E**, Thirukumaran C, Thorsness R, Noyes K, Voloshin I. An Analysis of Adult Patient Risk Factors and Complications within 30 days after Arthroscopic Shoulder Surgery. *Arthroscopy*, 2015;31(5):807-15.
- Shields E**, Kates S. Revision Rates and Cumulative Hospital Charges in Patients Treated with Hemiarthroplasty Compared to Cannulated Screws after Femoral Neck Fractures. *Archives of Orthopaedic and Trauma Surgery*, 2014;134(12):1667-71.
- Shields E**, Iannuzzi J, Thorsness R, Noyes K, and Voloshin I. Post-operative Morbidity by Procedure and Patient Factors Influencing Major Complications within 30 Days Following Shoulder Surgery. *Orthopaedic Journal of Sports Medicine*. 2014;2(10). Electronic Publication.
DOI: 10.1177/2325967114553164
- Chen C, Behrend C, **Shields E**, English C; Maloney M, Voloshin I. Effects of Debridement of Biceps Tendon Insertion and Superior Labrum on Stability of the Shoulder Joint in Cadaveric Concavity-Compression Model. *Arthroscopy*, 2014;30(12):1557-61.
- Shields E**, Mirabelli M, Amsdell S, Thorsness R, Goldblatt J, Maloney M, and Voloshin I. Functional and Ultrasonography Imaging Outcomes of Arthroscopic Simultaneous Rotator Cuff and Bankart Repair after Shoulder Dislocation. *American Journal of Sports Medicine*. 2014;42(11):2614-20.
- Olsen J, **Shields E**, Miller R, Maloney M, Voloshin I. A Comparison of the Tension Slide with Interference Screw versus Suture Anchor Techniques for Distal Biceps Tendon Repairs. *Journal of Shoulder and Elbow Surgery*. 2014;23(11):1607-11.

Shields E, Behrend C, Bair J, Cram P, Kates S. Mortality and Financial Burden of Periprosthetic fractures of the Femur. *Geriatric Orthopaedic Surgery and Rehabilitation*. 2014 July; on-line publication. DOI: 10.1177/2151458514542281

Shields E, Iannuzzi J, Thorsness R, Noyes K, Voloshin I. Peri-Operative Complications Following Hemi- and Total Shoulder Arthroplasty are Equivalent. *Journal of Shoulder and Elbow Surgery*. 2014;23(10):1449-53. DOI: 10.1016/j.jse.2014.01.052

Majid K, Crowder T, Baker E, Baker K, **Shields E**, Koueiter D, Herkowitz HN. High Rate of In Vivo Corrosion of 316L Stainless Steel Thoracolumbar Connector Plates. *Journal of Spinal Disorders and Techniques*. 2011; 24(8): 500-5.

Elsen F, **Shields E**, Roe M, VanDam R, Kelty J. Carbenoxolone Induced Depression of Rhythmogenesis in the pre-Bötzinger Complex. *BMC Journal of Neuroscience*, 2008;9:46. doi: 10.1186/1471-2202-9-46

VanDam R, **Shields E**, Kelty, J. Rhythm Generation by the pre-Bötzinger Complex in Medullary Slice and Island Preparations: Effects of Adenosine A1 Receptor Activation. *BMC Journal of Neuroscience*, 2008; 9:95. doi: 10.1186/1471-2202-9-95

MEDIA and OTHER PUBLICATIONS

Pfaff, K. Promising Findings for Simultaneous Bankart, RC repair. *Orthopaedics Today*. September 2014. p 8.
Study authors: **Shields E**, Mirabelli M, Amsdell S, Thorsness R, Goldblatt J, Maloney M, and Voloshin I.

Colen, CB, Fakhry H, Franco-Palacios C, Faculty Reviewers: Sobel J, Rossi N, Contributing Medical Student: **E. Shields**. *Colen Flash-Review: Transplant Surgery*. Colen Publishing 2008.

SUBMITTED MANUSCRIPTS

Shields E and Wiater JM. Patient Outcomes after Revision of Anatomic Total Shoulder Arthroplasty to Reverse Shoulder Arthroplasty: A Matched Cohort Study. Beaumont Health, Department of Orthopaedic Surgery, Royal Oak, MI
Submitted: *JSES*

Edward Shields MD, Michael Maceroli MD, Leigh Sundem, Sean Childs,

Adrian Hadiono, Catherine Humphrey MD, Jonathan Gross MD, John Ketz MD, John Gorczyca MD. Functional Outcome Scores of Humeral Shaft Fractures in Patients Treated Non-operatively Compared to Those Treated Surgically. Department of Orthopaedic Surgery, University of Rochester, NY
Submitted: *Archives of Orthopaedic and Trauma Surgery*

Shields E, Thirukumaran C, Thorsness R, Noyes K, and Voloshin I. Patient Factors Influencing Return to Work and Cumulative Financial Claims After Rotator Cuff repair in Workers Compensation Cases. Department of Orthopaedic Surgery, University of Rochester, NY
Submitted: *Geriatric Orthopaedics*

Edward Shields and Jonathan D. Kelty. Fluorescence Recovery after Photobleaching Shows Gap Junction coupling in the pre-Bötzing Complex. Department of Biology, Central Michigan University, Mt. Pleasant, MI, 48859, U.S.A.
Submitted: *Journals of Respiratory Physiology and Neurobiology*

PODIUM ABSTRACT PRESENTATIONS

ASES Annual Closed Meeting, October 2017, New Orleans, LA
Previous Rotator Cuff Repair is Associated with Inferior Clinical Outcomes After Reverse Total Shoulder Arthroplasty
Authors: **Shields, E**; Koueiter, D; Maerz, T; Schwark, A; Wiater, JM

The 13th International Congress of Shoulder and Elbow Surgery, May 2016, Jeju, Korea
Open Reduction and Internal Fixation Versus Hemiarthroplasty In The Management Of Complex Articular Fractures And Fracture-Dislocations Of The Proximal Humerus
Authors: Thorsness, R; **Shields, E**; Owens, C; Gorczyca, J; Voloshin, I

American Shoulder and Elbow Society, Closed Meeting October 2015, Asheville, NC
Patient Factors Influencing Return To Work And Cumulative Financial Claims After Clavicle Fractures In Workers Compensation Cases.
Authors: **Shields, E**; Thirukumaran, C; Thorsness, R; Noyes, K; Voloshin, I

Orthopaedic Trauma Association, National Meeting, October 2015, San Diego, CA
The Impact of Residual Angulation on Patient Reported Functional Outcome Scores after Non-operative Treatment for Humeral Shaft Fractures.
Authors: **Shields, E**; Sundem, L; Childs, S; Maceroli, M; Humphrey, C; Ketz, J; Soles, G; Gorczyca, J

Orthopaedic Trauma Association, National Meeting, October 2015, San Diego, CA

Scapular Dyskinesia Following Displaced Fractures of the Middle Clavicle.
 Authors: **Shields, E**; Behrend, C; Beiswenger, T; Strong, B; Maloney, M;
 Voloshin, I

European Society for Surgery of the Shoulder and Elbow, September 2015, Milano, Italy

Scapular Dyskinesia Following Displaced Fractures of the Middle Clavicle.
 Authors: **Shields, E**; Behrend, C; Beiswenger, T; Strong, B; Maloney, M;
 Voloshin, I

American Shoulder and Elbow Society, Specialty Day Meeting, March 2015, Las Vegas, NV

The Cost-Effectiveness Of Open Reduction And Internal Fixation Compared With Hemiarthroplasty In The Management Of Complex Proximal Humerus Fractures.

Authors: Thorsness, R; Iannuzzi, J; **Shields, E**; Noyes, K; Voloshin, I

American Orthopaedic Association/COA combined meeting June 2014, Montreal, Canada

The cost-effectiveness of open reduction and internal fixation compared with hemiarthroplasty in the management of complex proximal humerus fractures.

Authors: Thorsness, R; Iannuzzi, J; **Shields, E**; Noyes, K; Voloshin, I

Arthroscopy Association of North America, Annual Meeting May 2014, Hollywood, FL

Defining High Risk Shoulder Procedures: An analysis of the National Surgical Quality Improvement Database

Authors: **Shields, E**; Iannuzzi, J; Thorsness, R; Noyes, K; Voloshin, I

Arthroscopy Association of North America, Annual Meeting May 2014, Hollywood, FL

Functional and Ultrasonography Imaging Outcomes of Arthroscopic Simultaneous Rotator Cuff and Bankart Repair after Shoulder Dislocation

Authors: **Shields, E**; Mirabeli, M; Amsdell, S; Thorsness, R; Goldblatt, J; Maloney, M; Voloshin, I

American Academy of Orthopaedic Surgeons, March 2014, New Orleans, LA

Open Reduction and Internal Fixation versus Hemiarthroplasty In The Management Of Proximal Humerus Fractures

Authors: Thorsness, R.; **Shields, E.**; Iannuzzi, J; Zhang, L; Noyes, K; Voloshin, I.

Orthopaedic Trauma Association, National Meeting, October 2013, Phoenix, AZ

Functional Outcome Scores of Humeral Shaft Fractures in Patients Treated Non-operatively Compared to Those Treated Surgically

Authors: **Shields, E**; Maceroli, M; Sundem, L; Childs, S; Hadiono, A; Humphrey, C; Gross, J; Ketz, J; Gorczyca, J

**American Shoulder and Elbow Society, Closed Meeting October 2013,
Las Vegas, NV**

*Functional and Ultrasonography Imaging Outcomes of Arthroscopic
Simultaneous Rotator Cuff and Bankart Repair after Shoulder Dislocation*

Authors: **Shields, E**; Mirabeli, M; Amsdell, S; Thorsness, R; Goldblatt, J;
Maloney, M; Voloshin, I

Lumbar Spine Research Society Meeting, May 2011, Chicago, IL

*A Retrospective Review of the Benefits and Side Effects using Spinal
Anesthesia for Orthopaedic Lumbar Spine Surgery*

Authors: Vitale, C; **Shields, E**; Baker, K; Fischgrund, J

POSTER PRESENTATIONS

**Beaumont Health Resident and Fellow Research Forum, May, 2017,
Royal Oak, MI**

*The Effect of Previous Rotator Cuff Repair on Clinical Outcomes after Reverse
Total Shoulder Arthroplasty*

Authors: **Shields E**, Koueiter D, Maerz T, Schwark A, Wiater JM

**American Orthopaedic Association, Annual Meeting, June 2016, Seattle,
WA**

*Patient Factors Influencing Return to Work and Cumulative Financial Claims
After Rotator Cuff Repair in Workers Compensation Cases*

Authors: **Shields, E**; Thirukumaran, C; Thorsness, R; Noyes, K; Nicandri, G;
Voloshin, I

**The 13th International Congress of Shoulder and Elbow Surgery, May
2016, Jeju, Korea**

Scapular Dyskinesia Following Displaced Fractures of the Middle Clavicle.

Authors: **Shields, E**; Behrend, C; Beiswenger, T; Strong, B; Maloney, M;
Voloshin, I

**American Shoulder and Elbow Society, Closed Meeting October 2015,
Asheville, NC**

*Open Reduction And Internal Fixation Versus Hemiarthroplasty In The
Management Of Complex Articular Fractures And Fracture-Dislocations Of
The Proximal Humerus*

Authors: Thorsness, R; **Shields, E**; Owens, C; Gorczyca, J; Voloshin, I

**American Orthopaedic Association, Annual Meeting, June 2015,
Providence, RI**

*Open Reduction and Internal Fixation versus Hemiarthroplasty in the
Management of Complex Articular Fractures and Fracture-Dislocations of the
Proximal Humerus*

Authors: Thorsness, R; **Shields, E**; Owens, K; Gorczyca, J; Voloshin, I

Orthopaedic Trauma Association, Annual Meeting, October 2014, Tampa Bay, FL

Factors Predicting Satisfactory Functional Outcomes in Patients Following Humeral Shaft Fractures

Authors: **Shields, E**; Sundem, L; Childs, S; Maceroli, M; Soles, G; Humphrey, C; Ketz, J; Gorczyca, J

Orthopaedic Trauma Association, Annual Meeting, October 2014, Tampa Bay, FL

A New Technique for Identification and Stabilization of Dislocating Peroneal Tendons Following Open Treatment of Intra-articular Calcaneus Fractures

Authors: Maceroli, M; **Shields, E**; Sanders, R; Ketz, J

American Orthopaedic Association/COA Combined Meeting, June 2014, Montreal, Canada

Functional and Ultrasonography Imaging Outcomes of Arthroscopic Simultaneous Rotator Cuff and Bankart Repair after Shoulder Dislocation

Authors: **Shields, E**; Mirabeli, M; Amsdell, S; Thorsness, R; Goldblatt, J; Maloney, M; Voloshin, I

American Shoulder and Elbow Society, Closed Meeting, October 2013, Las Vegas, NV

Open Reduction and Internal Fixation versus Hemiarthroplasty In The Management Of Complex Articular Fractures And Fracture-Dislocations Of The Proximal Humerus

Authors: Thorsness, R; **Shields, E**; Owens, K; Voloshin, I

American Orthopaedic Association Annual Meeting, June 2013, Denver, CO

Scapula Dyskinesia Following Treatment of Displaced Fractures of the Midshaft Clavicle

Authors: Behrend, C., **Shields, E**; English, C; Beiwenger, T; Maloney, M.D., Voloshin, I.

International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine Annual Meeting, May 2013, Toronto, Canada

Scapular Dyskinesia Following Displaced Fractures of the Midshaft Clavicle

Authors: Behrend, C; Beiswenger, T; English, C; **Shields, E**; Maloney, M; Voloshin, I

Arthroscopy Association of North America Annual Meeting, April 2013, San Antonio, TX

Scapular Dyskinesia Following Displaced Fractures of the Midshaft Clavicle

Authors: Behrend, C; Beiswenger, T; English, C; **Shields, E**; Maloney, M; Voloshin, I

Arthroscopy Association of North America Annual Meeting, April 2013,

San Antonio, TX

Effects of Debridement of Biceps Tendon Insertion and Superior Labrum on Stability of the Shoulder Joint in Cadaveric Concavity-Compression Model

Authors: Chen, C., Behrend, C., **Shields, E**; English, C; Maloney, M.D., Voloshin, I.

Wayne State School of Medicine Research Symposium, April 2009, Detroit, MI

The effects of acute, intravenous sildenafil on the crossed phrenic pathway in the rat

Authors: **Shields, E**; Goshgarian, H

Central Michigan University Student Research and Creative Endeavors Exhibition, April 2007, Mount Pleasant, MI

Activation of ATP-sensitive potassium channels underlies hypoxic depression of pre-Bötzinger complex rhythmogenesis

Authors: **Shields, E**; Celmer, A; Kelty J

Central Michigan University Student Research and Creative Endeavors Exhibition, April 2007, Mount Pleasant, MI

Gap Junction Connectivity in the neo-natal Mouse pre-Bötzinger complex as assessed by Fluorescence Recovery after Photobleaching

Authors: **Shields, E**; Kelty, J

Posters at the Capitol, April 2006, Lansing, MI

Gap Junction Connectivity in the neo-natal Mouse pre-Bötzinger complex as assessed by Fluorescence Recovery after Photobleaching

Authors: **Shields, E**; Kelty, J

Michigan Microscopy and Microanalysis Society Conference in Lansing, November 2005, Lansing, MI

Gap Junction Connectivity in the neo-natal Mouse pre-Bötzinger complex as assessed by Fluorescence Recovery after Photobleaching

Authors: **Shields, E**; Kelty, J

Central Michigan University Summer Scholar's Poster Exhibition, October 2005, Mount Pleasant, MI

Gap Junction Connectivity in the neo-natal Mouse pre-Bötzinger complex as assessed by Fluorescence Recovery after Photobleaching

Authors: **Shields, E**; Kelty, J

Central Michigan University Student Research and Creative Endeavors Exhibition, December 2003, Mount Pleasant, MI

Nutritional deficits in the aged population of the Central Michigan region

Authors: Shields, E; Hueberger, R