CURRICULUM VITAE The Johns Hopkins University School of Medicine

(Signature)

Anthony S. Unger, MD

August 25, 2022

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

Univers	sity	
	1986-present	Georgetown University Medical Center, Department of Orthopaedics, Associate Clinical Professor
	1986-present	George Washington University Medical Center, Department of Orthopaedics, Clinical Professor
Hospit	al	
	1986-present	Georgetown University Hemophiliac Center, Orthopaedic Section, Co-Director
	2008-present	Washington Center for Hip and Knee Surgery, Director
	2010-present	Johns Hopkins Medicine, Johns Hopkins Community Joint Program, Co-Director
	2010-present	Sibley Memorial Hospital, Gildenhorn Institute for Bone and Joint Health, Medical Director
Other		
	2012-present	Journal of Arthroplasty, Associate Editor/Reviewer
	2014-present	Arthroplasty Today, Associate Editor/Reviewer

Personal Data

Washington Joint Institute 2021 K Street, N.W., Suite 516 Washington, DC 20006 Tel: 203-833-1147 Fax: 301-897-8105

Washington Orthopaedics and Sports Medicine 5454 Wisconsin Ave, Suite 1000 Chevy Chase, MD 20815 Tel: 301-657-1996 Fax: 202-296-2515

Email: ungeranthony@gmail.com

Education and Training

Undergraduate

1976 BS State University of New York at Stony Brook, Stony Brook, NY, Graduation with Honors

Doctoral/graduate

1980 MD State University of New York at Buffalo, Buffalo, NY

Postdoctoral

1981	Internship	Hospital of the University of Pennsylvania, Philadelphia, PA, Director: James Mullen, MD
1985	Residency	Orthopaedic Surgery, University of Pennsylvania, Philadelphia, PA, Director: C.T. Brighton, MD
1982	Fellowship	Orthopaedic Research, University of Pennsylvania, Philadelphia, PA, Director: C.T. Brighton, MD
1986	Fellowship	Comprehensive Arthritis, The Hospital for Special Surgery, New York, NY, Director: A.E. Inglis, MD

Professional Experience

 1986-present Associate Clinical Professor, Department of Orthopaedics, Georgetown University Medical Center, Washington, DC
1986-present Clinical Professor, Department of Orthopaedics, George Washington University Medical Center, Washington, DC

1986-present	Co-Director, Orthopaedics, The Georgetown University Hemophiliac Center, Washington, DC
2006-2011	Director, MIS Hip/Knee Surgery Center, George Washington University Medical Center, Washington, DC
2008-present	Director, Washington Center for Hip and Knee Surgery, Washington, DC
2010-present	Medical Director, Gildenhorn Institute for Bone and Joint Health, Sibley Memorial Hospital, Washington,
_	DC
2010-present	Co-Director, Johns Hopkins Community Joint Program, Johns Hopkins Medicine
2012-present	Associate Editor/Reviewer, Journal of Arthroplasty

2014-present Associate Editor/Review, Arthroplasty Today

PUBLICATIONS:

Original Research [OR]

- Unger AS, Stambough JL, & Brighton CT. Electrical Stimulation of Bovine Chondrocyte Pellets Using a Capacitively Couples Signal. Transactions of the 29th Annual Orthopaedic Research Society. 1983; 8:199.
- Bora FW, Unger AS and Osterman AL. The Local Inhibition of Nerve Scar by the Biodegradable Vehicle Chronomer Carrying CisHydroxyproline. Transactions of the 29th Annual Orthopaedic Research Society. 1983; 8:278.
- 3. **Unger AS**, Steinberg ME, Jimenez SA, Bashey RI and Pollack S. Effects of Collagen Crosslinking on Stress-Generated Potentials (SGPS) in Tendon. Surgical Forum. 1983; 34:563.
- 4. Brighton CT, **Unger AS**, Stambough, JL. In Vitro Growth of Bovine Articular Cartilage Chondrocytes in Various Capacitively Coupled Electrical Fields. J. Ortho. Res. 1984; 2(1):15-24.
- 5. Kurz LT, Garfin SR, **Unger AS**, Thorne RO, and Rothman RH. Lumbar Intraspinal Extradural Ganglion Cyst as a Cause of Sciatica. JBJS. 1985; 67A:865.
- 6. **Unger AS** and Steinberg ME. Femoral Endoprosthetic Replacement in Younger Adults. The University of Pennsylvania Orthopaedic Journal. 1986; 2:79.
- 7. Gecha SR, **Unger AS**, Nichols C, Balduni FC, Gregg JR and Torg JS. Lateral Retinacular Release for Treatment of Patellofemoral Pain. The University of Pennsylvania Orthopaedic Journal. 1986; 2:67.
- 8. **Unger AS** and Shuster HD. Predicting the Healing of the Displaced Subcapital Hip Fracture Via Postoperative Roentgenographic Factors. Orthopaedic Review. 1986; XV:33.
- 9. **Unger AS**, Inglis AE, Ranawat CS and Johansson NA. Total Hip Arthroplasty in Rheumatoid Arthritis: A Long Term Follow Up Study. J of Arthroplasty. 1987; 2:191.
- 10. **Unger AS**, Inglis AE, Mow, CS and Figgie HE. Total Ankle Arthroplasty in Rheumatoid Arthritis: A Long Term Follow Up Study. Foot and Ankle. 1988; 8:173.
- 11. Spaulding, JM, Meyes, RG, Figgie HE, **Unger AS** and Inglis AE. Total Ankle Arthroplasty: A Procedural Review. AORN Journal. 1988; 48:201.
- 12. Bohn WW, Johanson NA, Schneider R and **Unger AS**. Symptomatic Corticosteroid-Induced Osteonecrosis of the Knee. American Journal of Knee Surgery. 1989; 1:105.
- 13. **Unger AS**, Lewis RJ and Kessler CM. Total Knee Arthroplasty in Human Immunodeficiency Virus-infected Hemophiliacs. J. Arthroplasty. 1995; 10(4):448-452.
- Bobyn JD, Poggie RA, Krygier JJ, Lewallen DG, Hanssen AD, Lewis RJ, Unger AS, O'Keefe TJ, Christie MJ, Nasser S, Wood JE, Stulberg SD, Tanzer M. Clinical Validation of a Structural Porous Tantalum Biomaterial for Adult Reconstruction. J. Bone Joint Surg. Am. 2004; 86(suppl_2):123-129.
- 15. **Unger AS**, Lewis RJ and Gruen T. Evaluation of a Porous Tantalum Uncemented Acetabular Cup in Revision Total Hip Arthroplasty: Clinical and Radiologic Results of 60 Hips. J. of Arthroplasty. 2005; 20(8):1002-1009.
- 16. Unger AS and Duggan JP. Midterm Results of a Porous Tantalum Monoblock Tibia Component: Clinical and Radiographic Results. J of Arthroplasty. 2011; 26(6):855-860.
- Bergin PF, Doppelt JD, Kephart CJ, Benke MT, Greater JH, Holmes AS, Aleem-Smith H, Tuan RS and Unger AS. Comparison of Minimally Invasive Direct Anterior Versus Posterior Hip Arthroplasty Based on Inflammation and Muscle Damage Markers. JBJS. 2011; 93-A(15), 1392-1398.
- 18. Milchteim C and **Unger AS**. Cementless Fixation in High Performance Knee Design. Techniques in Knee Surgery. 2011; 10(3): 136-142.
- 19. Bergin P and Unger AS. Direct Anterior Hip Replacement, Essential Techniques of Surgery. JBJS. 2012.
- 20. Unger AS, Stronach BM, Bergin PF, Nogler M. Direct Anterior Total Hip Arthroplasty. Instr Course Lect. 2014; 63:227-38.
- 21. Ishii L, Demski R, Ken Lee KH, Mustafa Z, Frank S, Wolisnky JP, Cohen D, Khanna J, Ammerman J, Khanuja HS, **Unger AS**, Gould L, Wachter PA, Stearns L, Werthman R. Pronovost P Improving healthcare value through clinical community and supply chain collaboration. Healthc (Amst). 2017;(1-2):1-.

- 22. Gerscovich D, Schwing C, **Unger A**. Long Term Results of a Porous Tantalum Monoblock Tibia Component: Clinical and Radiographic Results; Follow up of 10 years. Arthroplasty Today. 2017; 3(3):192-196.
- 23. Unger AS. No Correlation Between Serum Markers and Early Functional Outcome After Contemporary THA; Clinical Orthopaedics and Related Research. CORR Insights. 2017; 475(2):463-464.
- 24. Soderquist MC, Scully R, **Unger AS**. Acetabular Placement Accuracy with the Direct Anterior Approach Free Hand Technique. J Arthroplasty. 2017; 32(9):2748-2754.
- 25. Ishii L, Demski R, Ken Lee KH, Mustafa Z, Frank S, Wolisnky JP, Cohen D, Khanna J, Ammerman J, Khanuja HS, **Unger AS**, Gould L, Wachter PA, Stearns L, Werthman R, Pronovost P. Improving healthcare value through clinical community and supply chain collaboration. Healthc (Amst). 2017; 5(1-2):1-5.
- 26. Fassihi SC, Gu A, Perim DA, Wei C, Stake S, Thakkar S, **Unger AS**, Ast MP, Sculco PK. Chronic preoperative corticosteroid use is not associated with surgical site infection following revision total knee arthroplasty. Journal of Orthopaedics. 2020; 20:173–176.
- 27. Guab A, Chenc FR, Chenc AZ, Fassihib SC, Thakkar S, **Unger AS**, Liu J, Sculcoa PK, Ast MP. Preoperative hyponatremia is an independent risk factor for postoperative complications in aseptic revision hip and knee arthroplasty. Journal of Orthopaedics. 2020; 20:224-227.
- 28. Smith EJ, Ibrahim G, Scully R, Siram G, **Unger AS**, Melvin JS. Intraoperative Fluoroscopy Improves Recreation of Femoral offset but not Leg Lengths during Direct Anterior Total Hip Arthroplasty. J of Orthopaedic Surgery and Techniques. 2020; 3:115-119.
- 29. Fassihi S, Gu A, Perim D, Wei C, Stake S, Thakkar S, **Unger A**, Ast M, Sculco P. Chronic Preoperative Corticosteroid Use Is Not Associated with Surgical Site Infection Following Revision Total Knee Arthroplasty. Journal of Orthopaedics. 2020; 20: 173-176.
- 30. Gu A, Chen F, Chen A, Fassihi S, Thakkar S, Unger A, Liu J, Sculco P, Ast M. Preoperative Hyponatremia Is an Independent Risk Factor for Postoperative Complications in Aseptic Revision Hip and Knee Arthroplasty. Journal of Orthopaedics. 2020; 20:224-227
- Mumtaz M, Mendoza J, Vosoughi AS, Unger AS, Goel VK. A Comparative Biomechanical Analysis of Various Rod Configurations Following Anterior Column Realignment and Pedicle Subtraction Osteotomy. Neurospine. 2021;18(3):587-596.

Case Reports [CR]

- 1. **Unger AS** and Booth RE. Disseminated Intravascular Coagulopathy in a Patient Undergoing Total Hip Replacement for Carcinoma: A Case Report. CORR. 1984; 183:76.
- 2. Kaplan FS, Goll SR, **Unger AS** and Schumacher HR. Heterotopic Ossification of the Elbows and Spine in a Young Man with Paraplegia. Orthopaedic Review. 1985; XIV:485.

Book Chapters, Monographs [BC]

- 1. Bora FW and **Unger AS**. Edited by Hunt TK, Heppenstall RB, Pines E and Rovec D. The Inhibition of Scar After Tendon and Nerve Injury. Soft and Hard Tissue Repair, Biological and Clinical Aspects. Prager Special Studies. 1984, New York.
- 2. Unger AS; Total Elbow Arthroplasty. Int. Medicine. 1988; 9:73.
- 3. **Unger AS**, Inglis AE and Figgie HE. Edited by Chapman MW, Lippincott JB. Total Ankle Arthroplasty. Operative Orthopaedics. 1988, Philadelphia, PA.
- 4. **Unger AS**, Ranawat CS and Lewis RJ. Edited by Balderston RA, Rothman RH, Booth RE and Hozack WJ. The Rheumatoid Hip. The Hip. Lea & Febiger. 1992, Philadelphia, PA.
- 5. Figgie HE, **Unger AS**, Inglis AE, Kraay MJ, Figgie MP. Edited by Chapman MW, Lippincott JB. Total Ankle Arthroplasty. Operative Orthopaedics, Second Edition. 1993, Philadelphia, PA.
- 6. **Unger AS**, Kessler C and Lewis RJ. Edited by Scott WN. Hemophilia and Pigmented Villonodular Synovitis. Surgery of the Knee, Fourth Edition. Churcill Livingstone. 2005, Philiadelphia, PA.
- 7. **Unger AS**, Kessler C and Lewis RJ. Edited by Scott WN. Hemophilia and Pigmented Villonodular Synovitis. Surgery of the Knee, Fifth Edition. Churchill Livingston. 2012, Philadelphia, PA.
- 8. Huttman D and **Unger AS.** Design of Uncemented Patella Replacements. Novel Publishers, Haupauge. New York, 2012.
- 9. **Unger AS**, Smith E, Keggi KJ, and Rubin LE. Edited by Rubin LE, Bal BS, Keggi KJ. Specialized Instruments for the Direct Anterior Approach. The Direct Anterior Approach for Hip Reconstruction. SLACK, Inc. 2016.

CLINICAL ACTIVITIES

Certification

1989American Board of Orthopaedic Surgery2000-2009Recertification

2010-2019Recertification2020-2029RecertificationDiplomate, National Board of ExaminersMedical

1986-2022 Washington, DC, 15851 1986-2022 Maryland, D35184

EDUCATIONAL ACTIVITIES

Teaching

Clinical instruction

1986-present	Professor, Orthopaedic Program, George Washington University
1986-present	Professor, Orthopaedic Program, Georgetown University

Educational instruction

2014 Direct Anterior Total Hip Arthroplasty, Instructional Course Lecture

ORGANIZATIONAL ACTIVITIES

Professional Societies

1989-2000	American Medical Association, member
1989-2000	DC Medical Society, member
1989-2000	DC Rheumatism Society, 1989-2000
1989-present	Washington Orthopaedic Society, member
1989-present	Jacobi Society, member
1989-present	American Academy of Orthopaedic Surgery
1989-present	Association for Arthritic Hip & Knee Surgery, Charter member
1995-2000	Eastern Orthopaedic Association, member
2001-2010	Osler Society

RECOGNITION

Awards, Honors

1976	Honors, graduation with Honors from SUNY, Stony Brook, NY
1980	James A. Gibson Anatomical Society
1980	Alpha Omega Alpha Medical Honor Society
2001	Teaching award, George Washington University Medical Center
2008	Baldridge Physician Award, George Washington University Medical Center
2016	Johns Hopkins Clinical Excellence Award

OTHER PROFESSIONAL ACCOMPLISHMENTS

Oral/Podium Presentations

- 1. 1982, In Vitro Capacitively Coupled Electrical Stimulation of Bovine Articular Chondrocyte Pellets in Varying Serum Concentrations, 2nd Annual BRAGS, Oxford, U.K.; Brighton CT, **Unger, AS** and Stambough JL.
- 2. 1982, The Effect of Crosslinking on Stress Generated Potentials (SGPS) in Tendon, Steinberg, 2nd Annual BRAGS, Oxford U.K.; **Unger AS**, Jimenez SA, Bashey RI and Pollack SR.
- 3. 1983, The Local Inhibition of Nerve Scan by the Biodegradable Vehicle Chronomer Carrying Cis-Hydroxyproline, 29th Annual ORS, Anaheim, CA; Bora FW, **Unger AS** and Osterman AS.
- 4. 1983, Electrical Stimulation of Bovine Articular Chondrocyte Pellets Using a Capacitively Coupled Signal, 29th Annual ORS, Anaheim, CA; **Unger AS**, Stambough JL and Brighton CT.
- 5. 1985, Femoral Endoprosthetic Replacement in Younger Patients, 52nd AAOS, New York, NY; Steinberg ME and Unger AS.
- 6. 1985, Total Shoulder and Elbow Arthroplasty, Summer Institute AAOS, New York, NY; Inglis AE and Unger AS.
- 7. 1985, Post-operative Roentgenographic Factors in the Prediction of Healing Displaced Subcapital Hip Fractures, Pennsylvania Orthopaedic Society, Philadelphia, PA; **Unger AS** and Shuster HF.
- 8. 1987, Long Term Follow Up of Total Hip Arthroplasty in Rheumatoid Arthritis, AAOS, San Francisco, CA; **Unger** AS, Inglis AE, Ranawat CS, and Johanson N.
- 9. 1987, Long Term Follow Up of Total Ankle Arthroplasty in Rheumatoid Arthritis, Foot and Ankle Society, San Francisco, CA; **Unger AS**, Inglis AE, Mow C and Figgie H.

- 10. 1988, Bilateral Total Knee Arthroplasty In Hemophiliacs, AAOS, Las Vegas, NV; DePasquale D, Lewis RJ and Unger AS.
- 11. 1992, Total Knee Replacement in HIV Infected Hemophiliacs, AAOS, Washington, DC; Unger AS, Kessler C and Lewis RJ.
- 12. 2001, Cementless Acetabular Revision Using Trabecular Metal, Current Concepts In Reconstructive Surgery, Whistler, BC; **Unger AS**.
- 13. 2001, Acetabular Revision with a Tantalum Monobloc Cup, AAOS; Unger AS.
- 14. 2002, THA with the Proxilock Stem. 2-5 yr. results, AAOS; Unger AS.
- 15. 2002, Performance of the Trabecular Metal Monobloc Cup: 2-5 yr results, AAOS; Unger AS.
- 2004, Clinical Validation of a Structural Porous Tantalum Biomaterial for Adult Reconstruction, AAOS; Bobyn JS, Tanzer M, Krygier J, Lewallen DG, Hanssen AD, Lewis RG, Unger AS, O'Keefe TJ, Christie M, Nasser S, Wood JE, Stulberg D, Poggie RA.
- 17. 2005, Minimal Invasive Joint Replacement Surgery, Cherry Blossom Seminar, Washington, DC; Unger AS.
- 18. 2005, Minimal Invasive Joint Replacement, Brazil Hip Society, Goianna, Brazil; Unger AS.
- 19. 2006, MIS TKA with a TM Cementless Knee, MIS/CAOS Meeting, Scottsdale, Arizona; Unger AS.
- 20. 2008, Surface Replacement Arthroplasty 2008 Update, Cherry Blossom Seminar Unger; Unger AS.
- 21. 2008, Evaluation of a Porous Tantalum Cruciate-Retaining Hi-Flex Uncemented Monoblock Tibia Component in MIS Primary Total Knee Arthroplasty, ISTA, Seoul, Korea; **Unger AS** and Duggan J.
- 22. 2009, Total Knee Replacement, Pearls and Pitfalls, Cherry Blossom Seminar, Washington, DC; Unger AS.
- 23. 2009, Ten-year Follow-up of the Trabecular Metal Monoblock Acetabular Component, ISTA, Kona, Big Island, Hawaii; Unger AS and Lewis R.
- 24. 2010, Prospective Comparison on Inflammatory and Muscle Damage Markers in MIS Direct Anterior Versus Posterior Hip Arthroplasty, AAOS Meeting, New Orleans, LA; Bergin P, Dopplet J, Kephart C, Benke M, Graeter J, Holmes A, Smith H, Toan R, and **Unger A**.
- 25. 2011, Prospective Comparison on Inflammatory and Muscle Damage Markers in MIS Direct Anterior Versus Posterior Hip Arthroplasty, ISTA, Bruges, Belgium; **Unger AS**.
- 26. 2012, Total Hip Replacement Update, Cherry Blossom Meeting, Washington, DC; Unger AS.
- 27. 2012, Cementless Total Knee Replacement, Cherry Blossom Meeting, Washington, DC; Unger AS.
- 28. 2015, Technology in Arthroplasty, ICJR meeting, Houston, TX; Unger AS.
- 29. 2016, Blood loss in Direct Anterior Hip Surgery, ICJR, Houston, TX; Unger AS.
- 30. 2017, Psoas Tendonitis in DAA, ICJR, Houston, TX; Unger AS.
- 31. 2017, DAA in the Elderly Patient, ICJR, Houston, TX; Unger AS.
- 32. 2017, The Neck Sparing Implant in the DAA, AAHKS; Unger AS.
- 33. 2018, Surgical Approaches for the Hip—What's the Evidence, JBJS Webnar; Unger AS.
- 34. 2018, Psoas Tendonitis after THA, ICJR, Houston, TX; Unger AS.
- 35. 2018, THA in the Elderly, ICJR, Houston, TX; Unger AS.
- 36. 2019, Ten Tip for Learning the DAA, ICJR, Houston, TX; Unger AS.
- 37. 2019, Psoas Tendonitis after DAA, ICJR, Houston, TX; Unger AS.
- 38. 2019, Effect of the Enhanced Recovery After Surgery (ERAS) Perioperative Protocol on Short Term Outcomes of Joint Replacement Surgery, ISTA, Toronto, Canada; Fasihi S, Soderquist M, Kraekel S, and **Unger AS**.
- 39. 2019, Enhanced Recovery After Surgery (ERAS) Protocols Increase the Value of Total Joint Arthroplasty and Reduce Overall Opioid Requirements, American Society of Enhanced Recovery Annual Congress, Poster, Washington, DC; Kraekel S, Soderquist M, Fassihi S, and Unger A.
- 40. 2019, Effect of the Enhanced Recovery After Surgery (ERAS) Perioperative Protocol on Short Term Outcomes of Joint Replacement Surgery, International Society for Technology in Arthroplasty (ISTA) Annual Congress, Toronto, Canada, Podium and ePoster; Fassihi S, Kraekel S, Soderquist M, **Unger A**.
- 41. 2020, Neural Network Prediction of Mortality Following Primary Total Hip Arthroplasty, Southern Orthopaedic Association, Podium; Wei C, Gu A, Quan T, Fassihi S, Mathur A, Thakkar S, and **Unger A**.
- 42. 2020, Decreased 30-Day Complications with Regional Anesthesia in Revision Knee Arthroplasty, Southern Orthopaedic Association, Podium; Gu A, Wei C, Muthiah A, Fassihi S, Nunley R, Berger J, Thakkar S, **Unger A**, and Sculco P.
- 43. 2020, Length of Stay Does Not Impact Total Knee Arthroplasty Outcomes, Southern Orthopaedic Association, Podium; Gu A, Malahias MA, Fassihi S, Richardson S, Buller L, Thakkar S, **Unger A**, Ast M, and Sculco P.

- 44. 2020, THA in the Elderly Patient, ICJR, Houston, Texas; Unger AS.
- 45. 2020, Neural Network Prediction of Mortality Following Primary Total Hip Arthroplasty, Southern Orthopaedic Association, Podium; Fassihi S, Wei C, Gu A, Quan T, Mathur A, Thakkar S, **Unger A**.
- 46. 2020, Decreased 30-Day Complications with Regional Anesthesia in Revision Knee Arthroplasty, Southern Orthopaedic Association, Podium; Fassihi S, Gu A, Wei C, Muthiah A, Nunley R, Berger J, Thakkar S, Sculco P, and **Unger A.**
- 47. 2020, Length of Stay Does Not Impact Total Knee Arthroplasty Outcomes, Southern Orthopaedic Association, Podium; Fassihi S, Gu A, Malahias MA, Richardson S, Buller L, Thakkar S, Ast M, Sculco P, **Unger A**.

Community Services

- 1986-present Jewish Social Services, Medical Advisor
- 1986-present Peace Corps USA, Washington, DC, Medical Advisor
- 1989-1991 Arthritis Foundation, Metro Washington Chapters, Medical Advisory Board
- 1989-present Blue Cross Blue Shield of the National Capital Area, Medical Advisor
- 1996 Board of Trustees, DC Medical Society
- 2011-present BlueCross FEP, P and T committee