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Engineering & Scientific Consulting

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Professional Profile

Dr. Kurtz is a Corporate Vice President and the Director of Exponent's Biomedical Engineering practice. He serves as a part-time Research Professor and Director of the Implant Research Center at Drexel University's School of Biomedical Engineering, Science, and Health Systems. Dr. Kurtz has expertise in the clinical performance of polyethylene, ceramic, and metal-on-metal hip implants. His professional career has involved the evaluation of medical device technologies, from a combined analytical, experimental, and clinical perspective.

His research activities have emphasized real-world clinical performance of medical devices, including orthopedic, spine, and cardiovascular implants, as assessed by human implant retrieval specimens, national implant registries, and national health care databases; clinical studies of medical devices; mechanical behavior of synthetic biomaterials; contact mechanics of artificial joints; and structural evaluation of bone-implant systems. His recent research interests include additive manufacturing of high-temperature polymers, including PEEK, to create novel drug delivery devices that treat spine and orthopaedic implant infection.

Dr. Kurtz is active in many professional societies, including the American Academy of Orthopedic Surgeons, the American Association of Hip and Knee Surgeons, the Hip Society, the Knee Society, and the American Society for Testing and Materials (ASTM). Dr. Kurtz has edited 10 books and written over 240 journal articles and 500 conference abstracts. He is the founding editor of three educational websites: the UHMWPE Lexicon (www.uhmwpe.org); the Medical PEEK Lexicon (www.medicalpeek.org); and the Medical Ceramics Encyclopedia (www.medicalceramics.org). He has co-edited STP 1591: Modularity and Tapers in Total Joint Replacements for the ASTM in 2015 and recently completed the UHMWPE Biomaterials Handbook, 3rd Edition, which was published in 2016.

Academic Credentials & Professional Honors

Ph.D., Mechanical Engineering, Cornell University, 1995

M.S., Mechanical Engineering, Cornell University, 1992

B.S., Mechanical Engineering, Cornell University, *with distinction*, 1990

Patrick G. Laing Award (formerly called the F04 Award of Merit), for Outstanding Contributions in the Field of Medical & Surgical Materials & Devices, American Society for Testing and Materials, May 2015

James A. Rand Award, American Association of Hip and Knee Surgeons, for Most Outstanding Paper in Arthroplasty Surgery, 2012

John W. Hyatt Award (Benefit to Society), for Outstanding Achievement in Plastics that Benefit Mankind, Awarded by the Society of Plastics Engineers, 2008

Lawrence D. Dorr Award, American Association of Hip and Knee Surgeons, for Most Outstanding Paper in Surgical Techniques and Technologies, 2008, 2009

Leroy Wyman Award, for Outstanding Contributions to Committee F-04 on Medical & Surgical Materials & Devices, American Society for Testing and Materials, May 2008

Otto Aufranc Hip Society Award, for the Best Paper Encompassing Important Advances in the Management of Hip Disorders, 2006

The Spine Education in Research Award, for the Best Basic Science Paper, Awarded by the Spine Arthroplasty Society, 2006

Fulbright Senior Specialist, Fulbright Scholar Program, Council for International Exchange of Scholars, 2006

MOSES Award, Committee F-04 on Medical & Surgical Materials & Devices, American Society for Testing and Materials, May 2000

Academic Appointments

Research Professor, School of Biomedical Engineering, Science, and Health Systems, Drexel University

Professional Affiliations

The Hip Society

The Knee Society

American Academy of Orthopaedic Surgeons

American Association for Hip and Knee Surgeons (Exhibits Committee, 2009-2013; Orthopaedic Device Forum, 2014-2018)

Orthopaedic Research Society

American Society for Testing and Materials (Vice-Chairman of Subcommittee F04.11 on Polymeric Materials; task force chair for UHMWPE and PEEK specification and characterization; task force chair for metal-on-metal hip clinical characterization, 2011-2012)

Patents

Patent 6,267,011: Method and Apparatus for Determining the True Stress and True Strain Behavior of a Ductile Polymer," Issued July 31, 2001 (with C.W. Jewett and J.R. Foulds).

Publications

Kurtz SM, Is switching from cobalt-chrome to non-cobalt-chrome femoral heads the best way to mitigate taper corrosion problems? Orthopedics Today:
<https://www.healio.com/orthopedics/hip/news/print/orthopedics-today/%7B23503004-cd0f-4984-9546-47b3245187d4%7D/is-switching-from-cobalt-chrome-to-non-cobalt-chrome-femoral-heads-the-best-way-to-mitigate-taper-corrosion-problems> . September 2018.

Urish KL, Hamlin BR, Plakseychuk AY, Levison TJ, Kurtz S, DiGioia AM. Letter to the Editor on "Trunnion Failure of the Recalled Low Friction Ion Treatment Cobalt Chromium Alloy Femoral Head". J Arthroplasty 2019;34:190.

Perkins M, Lowell J, Arnholt C, MacDonald D, Kerkhof AL, Kurtz SM, Mihalko WM. Is Soft Tissue Laxity Associated with Tissue Metal Concentrations after Total Knee Arthroplasty? Journal of long-term effects of medical implants 2018;28:79-85.

Hansen EN, Ong KL, Lau E, Kurtz SM, Lonner JH. Unicondylar Knee Arthroplasty in the U.S. Patient Population: Prevalence and Epidemiology. Am J Orthop (Belle Mead NJ) 2018;47.

Basgul C, Yu T, MacDonald DW, Siskey R, Marcolongo M, Kurtz SM. Structure-Property Relationships for 3D printed PEEK Intervertebral Lumbar Cages Produced using Fused Filament Fabrication. J Mater Res 2018;33:2040-2051.

Kurtz SM, Lau EC, Son MS, Chang ET, Zimmerli W, Parvizi J. Are We Winning or Losing the Battle With Periprosthetic Joint Infection: Trends in Periprosthetic Joint Infection and Mortality Risk for the Medicare Population. J Arthroplasty 2018;33:3238-3245.

Callaghan JJ, DeMik DE, Bedard NA, Odland AN, Kane WM, Kurtz SM. Tibial tray fracture in a modern prosthesis with retrieval analysis. Arthroplast Today 2018;4:143-147.

Arnholt CM, MacDonald DW, Klein GR, Cates HE, Rimnac CM, Kurtz SM, Implant Research Center Writing C, Kocagoz S, Chen AF. What Is the Incidence of Cobalt-Chromium Damage Modes on the Bearing Surface of Contemporary Femoral Component Designs for Total Knee Arthroplasty? J Arthroplasty 2018;33:3313-3319.

Kurtz SM, Lau EC, Baykal D, Odum SM, Springer BD, Fehring TK. Are Ceramic Bearings Becoming Cost-Effective for All Patients? J Arthroplasty 2018;33:1352-1358.

MacDonald DW, Higgs GB, Chen AF, Malkani AL, Mont MA, Kurtz SM. Oxidation, Damage Mechanisms, and Reasons for Revision of Sequentially Annealed Highly Crosslinked Polyethylene in Total Knee Arthroplasty. J Arthroplasty 2018;33:1235-1241.

Golish SR, Kurtz SM, Boyan BD. Can 3D Printing Revolutionize Orthopaedic Devices? AAOS Now: <https://www.aaos.org/AAOSNow/2018/Jan/Cover/Cover01/> , Jan 2018.

Higgs GB, MacDonald DW, Lowell J, Padayatil A, Mihalko WM, Siskey RL, Gilbert JL, Rimnac CM, Kurtz SM. Technical Note: Is Corrosion a Threat to the Strength of the Taper Connection in Femoral Components of Total Hip Replacements? Corrosion 73(12): 1538, 2017.

Kurtz SM, Lau E, Baykal D, Springer BD. Outcomes of Ceramic Bearings After Primary Total Hip Arthroplasty in the Medicare Population. J Arthroplasty 32(3): 743, 2017.

Kurtz SM, Bracco P. Editorial Comment: Symposium: Advances in Polyethylene Biomaterials. Clin Orthop Relat Res 475(5): 1347, 2017.

Arnholt CM, MacDonald DW, Underwood RJ, Guyer EP, Rimnac CM, Kurtz SM, Implant Research Center Writing C, Mont MA, Klein GR, Lee GC, Chen AF, Hamlin BR, Cates HE, Malkani AL, Kraay MJ. Do Stem Taper Microgrooves Influence Taper Corrosion in Total Hip Arthroplasty? A Matched Cohort Retrieval Study. J Arthroplasty 32(4): 1363, 2017.

Cafri G, Paxton EW, Love R, Bini SA, Kurtz SM. Is There a Difference in Revision Risk Between Metal and Ceramic Heads on Highly Crosslinked Polyethylene Liners? Clin Orthop Relat Res 475(5): 1349,

2017.

Elmallah RK, Chughtai M, Adib F, Bozic KJ, Kurtz SM, Mont MA. Determining Health-Related Quality-of-Life Outcomes Using the SF-6D Following Total Hip Arthroplasty. *J Bone Joint Surg Am* 99(6): 494, 2017.

Elmallah RK, Chughtai M, Khlopas A, Bhowmik-Stoker M, Bozic KJ, Kurtz SM, Mont MA. Determining cost-effectiveness of total hip and knee arthroplasty using the short form-6D utility measure. *J Arthroplasty* 32(2): 351, 2017.

Veruva SY, Lanman TH, Isaza JE, Freeman TA, Kurtz SM, Steinbeck MJ. Periprosthetic UHMWPE Wear Debris Induces Inflammation, Vascularization, and Innervation After Total Disc Replacement in the Lumbar Spine. *Clin Orthop Relat Res* 475(5): 1369, 2017.

Perfetti DC, Boylan MR, Naziri Q, Paulino CB, Kurtz SM, Mont MA. Have Periprosthetic Hip Infection Rates Plateaued? *J Arthroplasty* 32(7): 2244, 2017.

Kurtz SM, Lau EC, Ong KL, Adler EM, Kolisek FR, Manley MT. Has health care reform legislation reduced the economic burden of hospital readmissions following primary total joint arthroplasty? *J Arthroplasty* 32(11): 3274, 2017.

Kurtz SM, Lau EC, Ong KL, Adler EM, Kolisek FR, Manley MT. Which clinical and patient factors influence the national economic burden of hospital readmissions after total joint arthroplasty? *Clin Orthop Relat Res* 475(12): 2926, 2017.

MacDonald DW, Chen AF, Lee GC, Klein GR, Mont MA, Kurtz SM, Taper Corrosion Writing C, Cates HE, Kraay MJ, Rimnac CM. Fretting and corrosion damage in taper adapter sleeves for ceramic heads: a retrieval study. *J Arthroplasty* 32(9): 2887, 2017.

Son MS, Lau E, Parvizi J, Mont MA, Bozic KJ, Kurtz S. What Are the Frequency, Associated Factors, and Mortality of Amputation and Arthrodesis After a Failed Infected TKA? *Clin Orthop Relat Res* 475(12): 2905, 2017.

Urish KL, Hamlin BR, Plakseychuk AY, Levison TJ, Higgs GB, Kurtz SM, DiGioia AM. Trunnion Failure of the Recalled Low Friction Ion Treatment Cobalt Chromium Alloy Femoral Head. *J Arthroplasty* 32(9): 2857, 2017.

Kocagoz SB, Underwood RJ, MacDonald DW, Gilbert JL, Kurtz SM. Ceramic Heads Decrease Metal Release Caused by Head-taper Fretting and Corrosion. *Clin Orthop Relat Res*. 2016;474:985-94.

Kurtz SM, Lau E, Ong KL, Katz JN, Bozic KJ. Universal Health Insurance Coverage in Massachusetts Did Not Change the Trajectory of Arthroplasty Use or Costs. *Clin Orthop Relat Res*. 2016;474:1090-8.

Mihalko WM, Lowell J, Higgs G, Kurtz S. Total Knee Post-Cam Design Variations and Their Effects on Kinematics and Wear Patterns. *Orthopedics*. 2016;39:S45-9.

Higgs GB, MacDonald DW, Gilbert JL, Rimnac CM, Kurtz SM. Implant Research Center Writing Committee. Does taper size have an effect on taper damage in retrieved metal-on-polyethylene total hip devices? *J Arthroplasty*. 2016;31:277-81.

Kurtz SM, Lau EC, Baykal D, Springer BD. Outcomes of ceramic bearings after revision total hip arthroplasty in the Medicare population. *J Arthroplasty*. 2016;31:1979-85.

Bozic KJ, Ong K, Kurtz S, Lau E, Vail TP, Rubash H, Berry D. Short-term risk of revision THA in the Medicare population has not improved with time. *Clin Orthop Relat Res*. 2016;474:156-63.

Koenig KM, Ong KL, Lau EC, Vail TP, Berry DJ, Rubash HE, Kurtz S, Bozic KJ. The Use of Hyaluronic Acid and Corticosteroid Injections Among Medicare Patients with Knee Osteoarthritis. *J Arthroplasty*. 2016;31:351-5.

Ong KL, Anderson AF, Niazi F, Fierlinger AL, Kurtz SM, Altman RD. Hyaluronic acid injections in medicare knee osteoarthritis patients are associated with longer time to knee arthroplasty. *J Arthroplasty*. 2016;31:1667-73.

Tohfafarosh M, Baykal D, Kiel JW, Mansmann K, Kurtz SM. Effects of gamma and e-beam sterilization on the chemical, mechanical and tribological properties of a novel hydrogel. *J Mech Behav Biomed Mater*. 2016;53:250-6.

Baykal D, Siskey RS, Underwood RJ, Briscoe A, Kurtz SM. The biotribology of PEEK-on-HXLPE bearings Is comparable to traditional bearings on a multidirectional pin-on-disk tester. *Clin Orthop Relat Res*. 2016;474:2384-2393.

Arnholt CM, MacDonald DW, Malkani AL, Klein GR, Rimnac CM, Kurtz SM, and the Implant Research Center Writing Committee: Kocagoz SB, Gilbert JL. Corrosion damage and wear mechanisms in long-term retrieved CoCr femoral components for total knee arthroplasty. *J Arthroplasty*. 2016;31:2900-2906.

Kurtz SM. Editorial Comment: Advances in PEEK technology. *Clin Orthop Relat Res*. 2016;474:2362-2363.

Kurtz SM, Lau EC, Ong KL, Adler EM, Kolisek FR, Manley MT. Which hospital and clinical factors drive 30- and 90-day readmission after TKA? *J Arthroplasty*. 2016;31:2099-2107.

Kurtz SM, Lau EC, Ong KL, Adler EM, Kolisek FR, Manley MT. Hospital, patient, and clinical Factors influence 30- and 90-day readmission after primary total hip arthroplasty. *J Arthroplasty*. 2016;31:2130-2138.

Siskey R, Ciccarelli L, Lui MK, Kurtz SM. Are PEEK-on-Ceramic bearings an option for total disc arthroplasty? An In Vitro Tribology Study. *Clin Orthop Relat Res*. 2016;474:2428-2440.

Siskey R, Peck J, Mehta H, Kosydar A, Kurtz S, Hill G. Development of a clinically relevant impingement test method for a mobile bearing lumbar total disc replacement. *Spine J*. 2016;16:1133-1142.

Grupp TM, Utzschneider S, Kurtz SM. Retrieval research in hip and knee arthroplasty. *Biomed Res Int*. 2016;2016:3480840.

Tohfafarosh M, Sevit A, Patel J, Kiel JW, Greenspon A, Prutkin JM, Kurtz SM. Characterization of outer insulation in long-term-implanted leads. *J Long Term Eff Med Implants*. 26(3): 225, 2016.

Kurtz SM, MacDonald DW, Mont MA, Parvizi J, Malkani AL, Hozack W. Retrieval analysis of sequentially annealed highly crosslinked polyethylene used in total hip arthroplasty. *Clin Orthop Relat Res*. 2015;473:962-71.

Paxton EW, Inacio MC, Kurtz S, Love R, Cafri G, Namba RS. Is there a difference in total knee arthroplasty risk of revision in highly crosslinked versus conventional polyethylene? *Clin Orthop Relat Res*. 2015;473:999-1008.

Paxton EW, Inacio MC, Namba RS, Love R, Kurtz SM. Metal-on-conventional polyethylene total hip arthroplasty bearing surfaces have a higher risk of revision than metal-on-highly crosslinked polyethylene: Results from a US registry. *Clin Orthop Relat Res*. 2015;473:1011-21.

Fredette EK, MacDonald DW, Underwood RJ, Chen AF, Mont MA, Lee GC, Klein GR, Rimnac CM, Kurtz

SM. Does metal transfer differ on retrieved ceramic and CoCr femoral heads? *Biomed Res Int*. 2015;2015:283038.

Banerjee S, Cherian JJ, Bono JV, Kurtz SM, Geesink R, Meneghini RM, Delanois RE, Mont MA. Gross trunnion failure after primary total hip arthroplasty. *J Arthroplasty*. 2015;30:641-8.

Hanzlik JA, Day JS, Rimnac CM, Kurtz SM, Ingrowth retrieval study group. Is there a difference in bone ingrowth in modular versus monoblock porous tantalum tibial trays? *J Arthroplasty*. 2015;30:1073-8.

Bozic KJ, Kamath AF, Ong K, Lau E, Kurtz S, Chan V, Vail TP, Rubash H, Berry DJ. Comparative Epidemiology of Revision Arthroplasty: Failed THA Poses Greater Clinical and Economic Burdens Than Failed TKA. *Clin Orthop Relat Res*. 2015;473:2131-8.

Inacio MC, Chen Y, Paxton EW, Namba RS, Kurtz SM, Cafri G. Statistics in Brief: An Introduction to the Use of Propensity Scores. *Clin Orthop Relat Res*. 2015;473:2722-6.

Veruva SY, Lanman TH, Hanzlik JA, Kurtz SM, Steinbeck MJ. Rare complications of osteolysis and periprosthetic tissue reactions after hybrid and non-hybrid total disc replacement. *Eur Spine J*. 2015;24 Suppl 4:S494-501.

Ong KL, Lotke PA, Lau E, Manley MT, Kurtz SM. Prevalence and Costs of Rehabilitation and Physical Therapy After Primary TJA. *J Arthroplasty*. 2015;30:1121-6.

Neukamp M, Roeder C, Veruva SY, MacDonald DW, Kurtz SM, Steinbeck MJ. In vivo compatibility of Dynesys((R)) spinal implants: a case series of five retrieved periprosthetic tissue samples and corresponding implants. *Eur Spine J*. 2015;24:1074-84.

Lovald ST, Ong KL, Lau EC, Joshi GP, Kurtz SM, Malkani AL. Patient Selection in Short Stay Total Hip Arthroplasty for Medicare Patients. *J Arthroplasty*. 2015;30:2086-91.

Chakravarty R, Elmallah RD, Cherian JJ, Kurtz SM, Mont MA. Polyethylene wear in knee arthroplasty. *J Knee Surg*. 2015;28:370-5.

Edidin AA, Ong KL, Lau E, Kurtz SM. Morbidity and mortality after vertebral fractures: Comparison of vertebral augmentation and nonoperative management in the Medicare population. *Spine (Phila Pa 1976)*. 2015;40:1228-41.

Agne MT, Underwood RJ, Kocagoz SB, MacDonald DW, Day JS, Parvizi J, Kraay MJ, Mont MA, Klein GR, Cates HE, Kurtz SM. Is there material loss at the backside taper in modular CoCr acetabular liners? *Clin Orthop Relat Res*. 2015; 473:275-85.

Gilbert JL, Sivan S, Liu Y, Kocagoz SB, Arnholt CM, Kurtz SM. Direct in vivo inflammatory cell-induced corrosion of CoCrMo alloy orthopedic implant surfaces. *J Biomed Mater Res A*, 2015; 103: 211-23.

Medel F, Kurtz S, MacDonald D, Pascual FJ, Puertolas JA. Does cyclic stress play a role in highly crosslinked polyethylene oxidation? *Clin Orthop Relat Res*. 2015;473:1022-9.

Veruva SY, Lanman TH, Isaza JE, MacDonald DW, Kurtz SM, Steinbeck MJ. UHMWPE wear debris and tissue reactions are reduced for contemporary designs of lumbar total disc replacements. *Clin Orthop Relat Res*. 2015;473:987-98.

Torosyan Y, Kurtz SM, Mihalko WM, Marinac-Dabic D, Rimnac CM. Editorial: arthroplasty devices: registries and beyond. *Clin Orthop Relat Res*. 2015; 473:403-5.

Kurtz SM. Editorial Comment: Advances in UHMWPE Biomaterials. *Clin Orthop Relat Res*. 2015;473:926-

7.

Kurtz SM, Ong KL, Lau E, Bozic KJ. Impact of the economic downturn on total joint replacement demand in the United States: updated projections to 2021. *J Bone Joint Surg Am.* 2014; 96:624-630.

Kurtz SM, Kocagoz S, Arnholt C, Huet R, Ueno M, Walter WL. Advances in zirconia toughened alumina biomaterials for total joint replacement. *J Mech Behav Biomed Mater* 2014; 31:107-116.

Kurtz SM, MacDonald DW, Kocagoz S, Tohfafarosh M, Baykal D. Can pin-on-disk testing be used to assess the wear performance of retrieved UHMWPE components for total joint arthroplasty? *Biomed Res Int.* 2014: 581812.

Puertolas JA, Kurtz SM. Evaluation of carbon nanotubes and graphene as reinforcements for UHMWPE-based composites in arthroplastic applications: A review. *J Mech Behav Biomed Mater.* 2014;39C:129-45.

Arnholt CM, MacDonald DW, Tohfafarosh M, Gilbert JL, Rimnac CM, Kurtz SM, Implant Research Center Writing Committee: Klein G, Mont MA, Parvizi J, Cates HE, Lee GC, Malkani A, Kraay M. Mechanically assisted taper corrosion in modular TKA. *J Arthroplasty.* 2014;29:205-8.

Baykal D, Siskey RS, Haider H, Saikko V, Ahlroos T, Kurtz SM. Advances in tribological testing of artificial joint biomaterials using multidirectional pin-on-disk testers. *J Mech Behav Biomed Mater* 2014; 31C:117-34.

Bozic KJ, Lau E, Ong K, Chan V, Kurtz S, Vail TP, Rubash HE, Berry DJ. Risk factors for early revision after primary total hip arthroplasty in Medicare patients. *Clin Orthop Relat Res.* 2014; 472:449-54.

Bozic KJ, Lau E, Ong K, Chan V, Kurtz S, Vail TP, Rubash HE, Berry DJ. Risk factors for early revision after primary TKA in Medicare patients. *Clin Orthop Relat Res.* 2014; 472:232-7.

Eddin AA, Kurtz SM, Ong KL. Treatment of osteoporotic vertebral fractures. *JAMA Internal Medicine* 2014; 174:642.

Lovald S, Ong K, Lau E, Joshi G, Kurtz S, Malkani A. Patient selection in outpatient and short-stay total knee arthroplasty. *J Surg Orthop Adv* 2014; 23:2-8.

Lovald ST, Ong KL, Lau EC, Schmier JK, Bozic KJ, Kurtz SM. Mortality, cost, and downstream disease of total hip arthroplasty patients in the Medicare population. *J Arthroplasty.* 2014; 29:242-6.

Lovald ST, Ong KL, Malkani AL, Lau EC, Schmier JK, Kurtz SM, Manley MT. Complications, mortality, and costs for outpatient and short-stay total knee arthroplasty patients in comparison to standard-stay patients. *J Arthroplasty.* 2014; 29:510-5.

Malviya A, Wilson G, Kleim B, Kurtz SM, Deehan D. Factors influencing return to work after hip and knee replacement. *Occup Med (Lond).* 2014;64:402-9.

Phillips EA, Klein GR, Cates HE, Kurtz SM, Steinbeck M. Histological characterization of periprosthetic tissue responses for metal-on-metal hip replacement. *J Long Term Eff Med Implants.* 2014;24:13-23.

MacKinlay K, Falls T, Lau E, Day J, Kurtz S, Ong K, Malkani A. Decreasing incidence of femoral neck fractures in the Medicare population. *Orthopedics.* 2014;37:e917-24.

Veruva SY, Steinbeck MJ, Toth J, Alexander DD, Kurtz SM. Which design and biomaterial factors affect clinical wear performance of total disc replacements? A systematic review. *Clin Orthop Relat Res.* 2014;472:3759-69.

Kurtz SM, Kocagoz SB, Hanzlik JA, Underwood RJ, Gilbert JL, MacDonald DW, Lee GC, Mont MA, Kraay MJ, Klein GR, Parvizi J, Rimnac CM. Do ceramic femoral heads reduce taper fretting corrosion in hip arthroplasty? A retrieval study. *Clin Orthop Relat Res*. 2013; 471:3270-82.

Kocagoz SB, Underwood RJ, Sivan S, Gilbert JL, Macdonald DW, Day JS, Kurtz SM. Does taper angle clearance influence fretting and corrosion damage at the head-stem interface? A matched cohort retrieval study. *Semin Arthroplasty*. 2013; 24:246-54.

Kurtz SM, Lanman TH, Higgs G, Macdonald DW, Berven SH, Isaza JE, Phillips E, Steinbeck MJ. Retrieval analysis of PEEK rods for posterior fusion and motion preservation. *Eur Spine J*. 2013; 22:2752-9.

Higgs GB, Hanzlik JA, MacDonald DW, Gilbert JL, Rimnac CM, Kurtz SM. Is increased modularity associated with increased fretting and corrosion damage in metal-on-metal total hip arthroplasty devices? A retrieval study. *J Arthroplasty*. 2013; 28:2-6.

Inacio MC, Cafri G, Paxton EW, Kurtz SM, Namba RS. Alternative bearings in total knee arthroplasty: risk of early revision compared to traditional bearings: an analysis of 62,177 primary cases. *Acta orthopaedica*. 2013; 84:145-52.

Cipriani E, Bracco P, Kurtz SM, Costa L, Zanetti M. In-vivo degradation of poly(carbonate-urethane) based spine implants. *Polym Degr Stab* 2013; 98:1225-1235.

Hayes PJ, Carroll CM, Roberts CS, Seligson D, Lau E, Kurtz S, Ong K, Malkani AL. Operative treatment of acetabular fractures in the Medicare population. *Orthopedics* 2013; 36:e1065-70.

Baykal D, Underwood RJ, Mansmann K, Marcolongo M, Kurtz SM. Evaluation of friction properties of hydrogels based on a biphasic cartilage model. *J Mech Behav Biomed Mater*. 2013; 28C:263-73.

Lovald ST, Ong KL, Lau EC, Schmier JK, Bozic KJ, Kurtz SM. Mortality, cost, and health outcomes of total knee arthroplasty in Medicare patients. *J Arthroplasty*. 2013; 28:449-54.

MacDonald DW, Higgs G, Parvizi J, Klein G, Hartzband M, Levine H, Kraay M, Rimnac CM, Kurtz SM. Oxidative properties and surface damage mechanisms of remelted highly crosslinked polyethylenes in total knee arthroplasty. *Int Orthop*. 2013; 37:611-5.

Baxter RM, MacDonald DW, Kurtz SM, Steinbeck MJ. Severe impingement of lumbar disc replacements increases the functional biological activity of polyethylene wear debris. *J Bone Joint Surg Am*. 2013;95:e751-9.

Baxter RM, Macdonald DW, Kurtz SM, Steinbeck MJ. Characteristics of highly cross-linked polyethylene wear debris in vivo. *J Biomed Mater Res B Appl Biomater*. 2013; 101:467-75.

Bozic KJ, Ong K, Lau E, Berry DJ, Vail TP, Kurtz SM, Rubash HE. Estimating risk in Medicare patients with THA: an electronic risk calculator for periprosthetic joint infection and mortality. *Clin Orthop Relat Res*. 2013; 471:574-83.

Conrad TL, Jaekel DJ, Kurtz SM, Roeder RK. Effects of the mold temperature on the mechanical properties and crystallinity of hydroxyapatite whisker-reinforced polyetheretherketone scaffolds. *J Biomed Mater Res B Appl Biomater*. 2013; 101:576-83.

Eddin AA, Ong KL, Lau E, Kurtz SM. Life expectancy following diagnosis of a vertebral compression fracture. *Osteoporos Int*. 2013; 24:451-8.

Ong KL, Lau E, Kemner JE, Kurtz SM. Two-year cost comparison of vertebroplasty and kyphoplasty for

the treatment of vertebral compression fractures: are initial surgical costs misleading? *Osteoporos Int.* 2013; 24:1437-45.

Day JS, Baxter RM, Ramsey ML, Morrey BF, Connor PM, Kurtz SM, Steinbeck MJ. Characterization of wear debris in total elbow arthroplasty. *J Shoulder Elbow Surg.* 2013;22:924-31.

Sobieraj MC, Murphy JE, Brinkman JG, Kurtz SM, Rimnac CM. Monotonic and fatigue behavior of five clinically relevant conventional and highly crosslinked UHMWPEs in the presence of stress concentrations. *J Mech Behav Biomed Mater.* 2013;28:244-53.

Baker P, Petheram TG, Kurtz S, Konttinen YT, Gregg P, Deehan D. Patient reported outcome measures after revision of the infected TKR: comparison of single versus two-stage revision. *Knee Surg Sports Traumatol Arthrosc.* 2013;21:2713-20.

Kurtz SM, Lau E, Ong KL, Carreon L, Watson H, Albert T, Glassman S. Infection risk for primary and revision instrumented lumbar spine fusion in the Medicare population. *Journal of Neurosurgery Spine.* 2012; 17:342-7.

Kurtz SM, Lau E, Watson H, Schmier JK, Parvizi J. Economic burden of periprosthetic joint infection in the United States. *J Arthroplasty* 2012; 27:61-5 e1.

Kurtz SM, Toth JM, Siskey R, Ciccarelli L, MacDonald D, Isaza J, Lanman L, Punt I, Steinbeck M, Goffin J, van Ooij A. The latest lessons learned from retrieval analyses of ultra-high molecular weight polyethylene, metal-on-metal, and alternative bearing total disc replacements. *Semin Spin Surg* 2012; 24:57-70.

Bozic KJ, Kurtz SM. Identifying strategies to improve patient outcomes in total hip replacement: commentary on an article by Jeffrey N. Katz, MD, MSc, et al.: "Twelve-year risk of revision after primary total hip replacement in the U.S. Medicare population." *J Bone Joint Surg Am.* 2012; 94:e153.

Greenspon AJ, Patel JD, Lau E, Ochoa JA, Frisch DR, Ho RT, Pavri BB, Kurtz SM. Trends in permanent pacemaker implantation in the United States from 1993 to 2009: increasing complexity of patients and procedures. *J Am Coll Cardiol.* 2012; 60:1540-5.

Jaekel DJ, Day JS, Klein GR, Levine H, Parvizi J, Kurtz SM. Do dynamic cement-on-cement knee spacers provide better function and activity during two-stage exchange? *Clin Orthop Relat Res.* 2012; 470:2599-604.

Edidin AA, Ong KL, Lau E, Schmier JK, Kemner JE, Kurtz SM. Cost-effectiveness analysis of treatments for vertebral compression fractures. *Appl Health Econ Health Policy.* 2012; 10:273-84.

MacDonald D, Hanzlik J, Sharkey P, Parvizi J, Kurtz SM. In vivo oxidation and surface damage in retrieved ethylene oxide-sterilized total knee arthroplasties. *Clin Orthop Relat Res* 2012; 470:1826-1833.

Day JS, MacDonald DW, Olsen M, Getz C, Williams GR, Kurtz SM. Polyethylene wear in retrieved reverse total shoulder components. *J Shoulder Elbow Surg* 2012; 21:667-674.

Haider H, Weisenburger JN, Kurtz SM, Rimnac CM, Freedman J, Schroeder DW, Garvin KL. Does vitamin E-stabilized ultrahigh-molecular-weight polyethylene address concerns of cross-linked polyethylene in total knee arthroplasty? *J Arthroplasty* 2012; 27:461-469.

Bozic KJ, Lau E, Kurtz S, Ong K, Rubash H, Vail TP, Berry DJ. Patient-related risk factors for periprosthetic joint infection and postoperative mortality following total hip arthroplasty in Medicare patients. *J Bone Joint Surg Am* 2012; 94:794-800.

Malviya A, Bettinson K, Kurtz SM, Deehan DJ. When do patient-reported assessments peak after revision knee arthroplasty? *Clin Orthop Relat Res* 2012; 470:1728-1734.

Bozic KJ, Lau E, Kurtz S, Ong K, Berry DJ. Patient-related risk factors for postoperative mortality and periprosthetic joint infection in Medicare patients undergoing TKA. *Clin Orthop Relat Res* 2012; 470:130-137.

Punt IM, Austen S, Cleutjens JP, Kurtz SM, Ten Broeke RH, van Rhijn LW, Willems PC, van Ooij A. Are periprosthetic tissue reactions observed after revision of total disc replacement comparable to the reactions observed after total hip or knee revision surgery? *Spine* 2012; 37:150-159.

Baykal D, Day JS, Jaekel DJ, Katta J, Mansmann K, Kurtz SM. Tribological evaluation of hydrogel articulations for joint arthroplasty applications. *J Mech Behav Biomed Mater*. 2012;14C:39-47.

French K, Moore R, Gawel H, Kurtz SM, Kraay MJ, Xie K, Goldberg VM, Rimnac CM. Retrieval analysis of Harris-Galante I and II acetabular liners in situ for more than 10 years. *Acta orthopaedica*. 2012;83:366-73.

Austen S, Punt IM, Cleutjens JP, Willems PC, Kurtz SM, MacDonald DW, van Rhijn LW, van Ooij A. Clinical, radiological, histological and retrieval findings of Activ-L and Mobidisc total disc replacements: A study of two patients. *Eur Spine J* 2012; 21 Suppl 4:513-520.

Rundell SA, Day JS, Isaza J, Guillory S, Kurtz SM. Lumbar total disc replacement impingement sensitivity to disc height distraction, spinal sagittal orientation, implant position, and implant lordosis. *Spine*. 2012; 37:E590-8.

Baker P, Cowling P, Kurtz S, Jameson S, Gregg P, Deehan D. Reason for revision influences early patient outcomes after aseptic knee revision. *Clin Orthop Relat Res*. 2012;470:2244-52.

Curtin B, Malkani A, Lau E, Kurtz S, Ong K. Revision after total knee arthroplasty and unicompartmental knee arthroplasty in the medicare population. *J Arthroplasty* 2012; 27:1480-1406.

Punt I, Willems P, Kurtz S, van Rhijn L, van Ooij A. Clinical outcomes of two revision strategies for failed total disc replacements. *Eur Spine J*. 2012; 21:2558-64.

Punt I, Baxter R, van Ooij A, Willems P, van Rhijn L, Kurtz S, Steinbeck M. Submicron sized ultra-high molecular weight polyethylene wear particle analysis from revised SB Charite III total disc replacements. *Acta biomaterialia* 2011; 7:3404-411.

Walter WL, Kurtz SM, Esposito C, Hozack W, Holley KG, Garino JP, Tuke MA. Retrieval analysis of squeaking alumina ceramic-on-ceramic bearings. *J Bone Joint Surg Br*. 2011; 93:1597-601.

Rundell SA, Isaza JE, Kurtz SM. Biomechanical evaluation of a spherical lumbar interbody device at varying levels of subsidence. *SAS Journal* 2011; 5:16-25.

Greenspon AJ, Patel JD, Lau E, Ochoa JA, Frisch DR, Ho RT, Pavri BB, Kurtz SM. 16-year trends in the infection burden for pacemakers and implantable cardioverter-defibrillators in the United States 1993 to 2008. *J Am Coll Cardiol* 2011; 58:1001-1006.

Jaekel DJ, MacDonald DW, Kurtz SM. Characterization of PEEK biomaterials using the small punch test. *J Mech Behav Biomed Mater* 2011; 4:1275-1282.

Kurtz SM, Gawel HA, Patel JD. History and systematic review of wear and osteolysis outcomes for first-generation highly crosslinked polyethylene. *Clin Orthop Relat Res* 2011; 469:2262-2277.

MacDonald D, Sakona A, Ianuzzi A, Rimnac CM, Kurtz SM. Do first-generation highly crosslinked polyethylenes oxidize in vivo? *Clin Orthop Relat Res*. 2011; 469:2278-2285.

Huet R, Sakona A, Kurtz SM. Strength and reliability of alumina ceramic femoral heads: Review of design, testing, and retrieval analysis. *J Mech Behav Biomed Mater* 2011; 4:476-483.

Kurtz SM, Costa L. UHMWPE for arthroplasty: From powder to debris. Editorial comment: A perspective on polyethylene. *Clin Orthop Relat Res* 2011; 469:2260-2261.

Edidin AA, Ong KL, Lau E, Kurtz SM. Mortality risk for operated and nonoperated vertebral fracture patients in the Medicare population. *J Bone Miner Res*. 2011; 26:1617-1626.

Medel FJ, Kurtz SM, Sharkey PF, Austin MS, Klein GR, Cohen AR, et al. Post damage in contemporary posterior-stabilized tibial inserts: Influence of implant design and clinical relevance. *J Arthroplasty* 2011; 26:606-614.

Johanson NA, Kleinbart FA, Cerynik DL, Brey JM, Ong KL, Kurtz SM. Temporal relationship between knee arthroscopy and arthroplasty: a quality measure for joint care? *J Arthroplasty* 2011; 26:187-191.

Baxter RM, Freeman TA, Kurtz SM, Steinbeck MJ. Do tissues from THA revision of highly crosslinked UHMWPE liners contain wear debris and associated inflammation? *Clin Orthop Relat Res* 2011; 469:2308-2317.

Kurtz SM, Ong KL, Lau E, Widmer M, Maravic M, Gomez-Barrena E, de Pina Mde F, Manno V, Torre M, Walter WL, de Steiger R, Geesink RG, Peltola M, Roder C. International survey of primary and revision total knee replacement. *International orthopaedics* 2011; 35:1783-1789.

Medel FJ, Kurtz SM, Parvizi J, Klein GR, Kraay MJ, Rimnac CM. In vivo oxidation contributes to delamination but not pitting in polyethylene components for total knee arthroplasty. *J Arthroplasty* 2011; 26:802-810.

Markel D, Day J, Siskey R, Liepins I, Kurtz S, Ong K. Deformation of metal-backed acetabular components and the impact of liner thickness in a cadaveric model. *International orthopaedics* 2011; 35:1131-1137.

Kurtz SM, Lau E, Ianuzzi A, Schmier J, Todd L, Isaza J, et al. National revision burden for lumbar total disc replacement in the United States: Epidemiologic and economic Perspectives. *Spine* 2010; 35:690-696.

Kurtz SM, Medel FJ, MacDonald DW, Parvizi J, Kraay MJ, Rimnac CM. Reasons for revision of first-generation highly cross-linked polyethylenes. *J Arthroplasty* 2010; 25:67-74.

Kurtz SM, Siskey R, Reitman M. Accelerated aging, natural aging, and small punch testing of gamma-air sterilized polycarbonate urethane acetabular components. *J Biomed Mater Res B Appl Biomater* 2010; 93:442-447.

Shkolnikov YP, Bowden A, MacDonald D, Kurtz SM. Wear pattern observations from TDR retrievals using autoregistration of voxel data. *J Biomed Mater Res B Appl Biomater* 2010; 94:312-317.

Ong KL, Villarraga ML, Lau E, Carreon LY, Kurtz SM, Glassman SD. Off-label use of bone morphogenetic proteins in the United States using administrative data. *Spine* 2010; 35:1794-800.

Ong KL, Lau E, Suggs J, Kurtz SM, Manley MT. Risk of subsequent revision after primary and revision total joint arthroplasty. *Clin Orthop Relat Res* 2010; 468:3070-3076.

Matar WY, Restrepo C, Parvizi J, Kurtz SM, Hozack WJ. Revision hip arthroplasty for ceramic-on-ceramic squeaking hips does not compromise the results. *J Arthroplasty* 2010; 25:81-86.

Malkani AL, Ong KL, Lau E, Kurtz SM, Justice BJ, Manley MT. Early- and late-term dislocation risk after primary hip arthroplasty in the Medicare population. *J Arthroplasty* 2010; 25:21-25.

Ianuzzi A, Kurtz SM, Kane W, Shah P, Siskey R, van Ooij A, et al. In vivo deformation, surface damage, and biostability of retrieved dynesys systems. *Spine* 2010; 35:E1310-1316.

Fehring TK, Odum SM, Troyer JL, Iorio R, Kurtz SM, Lau EC. Joint replacement access in 2016: A supply side crisis. *J Arthroplasty* 2010; 25:1175-1181.

Day JS, Lau E, Ong KL, Williams GR, Ramsey ML, Kurtz SM. Prevalence and projections of total shoulder and elbow arthroplasty in the United States to 2015. *J Shoulder Elbow Surg* 2010; 19:1115-1120.

Bozic KJ, Ong K, Lau E, Kurtz SM, Vail TP, Rubash HE, et al. Risk of complication and revision total hip arthroplasty among Medicare patients with different bearing surfaces. *Clin Orthop Relat Res* 2010; 468:2357-2362.

Baxter RM, Ianuzzi A, Freeman TA, Kurtz SM, Steinbeck MJ. Distinct immunohistomorphologic changes in periprosthetic hip tissues from historical and highly crosslinked UHMWPE implant retrievals. *J Biomed Mater Res A* 2010; 95:68-78.

Kurtz SM, Ong KL, Lau E, Bozic KJ, Berry D, Parvizi J. Prosthetic joint infection risk after TKA in the Medicare population. *Clin Orthop Relat Res* 2010 Jan; 468(1):52-56.

Bozic KJ, Kurtz SM, Lau E, Ong K, Chiu V, Vail TP, et al. The epidemiology of revision total knee arthroplasty in the United States. *Clin Orthop Relat Res* 2010 Jan; 468(1):45-51.

Kurtz SM, Ochoa JA, Lau E, Shkolnikov Y, Pavri BB, Frisch D, et al. Implantation trends and patient profiles for pacemakers and implantable cardioverter defibrillators in the United States: 1993-2006. *Pacing Clin Electrophysiol* 2010; 33:705-711.

Sobieraj MC, Murphy JE, Brinkman JG, Kurtz SM, Rimnac CM. Notched fatigue behavior of PEEK. *Biomaterials* 2010; 31:9156-9162.

Kurtz SM, Austin MS, Azzam K, Sharkey PF, MacDonald DW, Medel FJ, et al. Mechanical properties, oxidation, and clinical performance of retrieved highly cross-linked Crossfire liners after intermediate-term implantation. *J Arthroplasty* 2010; 25:614-623 e1-2.

Kurtz SM, Steinbeck M, Ianuzzi A, van Ooij A, Punt IM, Isaza J, et al. Retrieval analysis of motion preserving spinal devices and periprosthetic tissues. *SAS Journal* 2009; 3(4):161-177.

Kurtz SM, MacDonald D, Ianuzzi A, van Ooij A, Isaza J, Ross ER, et al. The natural history of polyethylene oxidation in total disc replacement. *Spine* 2009 Oct 15; 34(22):2369-2377.

Kurtz SM, Lau E, Ong K, Zhao K, Kelly M, Bozic KJ. Future young patient demand for primary and revision joint replacement: National projections from 2010 to 2030. *Clin Orthop Relat Res* 2009 Oct; 467(10):2606-2612.

Kurtz SM, Dumbleton J, Siskey RS, Wang A, Manley M. Trace concentrations of vitamin E protect radiation crosslinked UHMWPE from oxidative degradation. *J Biomed Mater Res A* 2009 Aug; 90(2):549-563.

Rundell SA, Guerin HL, Auerbach JD, Kurtz SM. Effect of nucleus replacement device properties on lumbar spine mechanics. *Spine* 2009 Sep 1; 34(19):2022-2032.

Bozic KJ, Kurtz S, Lau E, Ong K, Chiu V, Vail TP, et al. The epidemiology of bearing surface usage in total hip arthroplasty in the United States. *J Bone Joint Surg Am* 2009 Jul; 91(7):1614-1620.

Punt IM, Cleutjens JP, de Bruin T, Willems PC, Kurtz SM, van Rhijn LW, et al. Periprosthetic tissue reactions observed at revision of total intervertebral disc arthroplasty. *Biomaterials* 2009 Apr; 30(11):2079-2084.

Choma TJ, Miranda J, Siskey R, Baxter R, Steinbeck MJ, Kurtz SM. Retrieval analysis of a ProDisc-L total disc replacement. *Journal of spinal disorders & techniques* 2009 Jun; 22(4):290-296.

Kurtz SM, Ong KL, Schmier J, Zhao K, Mowat F, Lau E. Primary and revision arthroplasty surgery caseloads in the United States from 1990 to 2004. *J Arthroplasty* 2009; 24(2):195-203.

Medel FJ, Kurtz SM, Hozack WJ, Parvizi J, Purtill JJ, Sharkey PF, et al. Gamma inert sterilization: A solution to polyethylene oxidation? *J Bone Joint Surg Am* 2009 Apr; 91(4):839-849.

Bozic KJ, Kurtz SM, Lau E, Ong K, Vail TP, Berry DJ. The epidemiology of revision total hip arthroplasty in the United States. *J Bone Joint Surg Am* 2009; 91(1):128-133.

Manley M, Ong K, Lau E, Kurtz SM. Total knee arthroplasty survivorship in the United States Medicare population: Effect of hospital and surgeon procedure volume. *J Arthroplasty* 2009 Oct; 24(7):1061-1067.

Medel FJ, Rimnac CM, Kurtz SM. On the assessment of oxidative and microstructural changes after in vivo degradation of historical UHMWPE knee components by means of vibrational spectroscopies and nanoindentation. *J Biomed Mater Res A* 2009 May; 89(2):530-538.

Kurtz SM, Siskey RL, Dumbleton J. Accelerated aqueous aging simulation of in vivo oxidation for gamma-sterilized UHMWPE. *J Biomed Mater Res B Appl Biomater* 2009 Jul; 90(1):368-372.

Baxter RM, Steinbeck MJ, Tipper JL, Parvizi J, Marcolongo M, Kurtz SM. Comparison of periprosthetic tissue digestion methods for ultra-high molecular weight polyethylene wear debris extraction. *J Biomed Mater Res B Appl Biomater* 2009 Oct; 91(1):409-418.

Ong KL, Day JS, Manley MT, Kurtz SM, Geesink R. Biomechanical comparison of 2 proximally coated femoral stems: effects of stem length and surface finish. *J Arthroplasty* 2009 Aug; 24(5):819-824.

Ong KL, Day JS, Kurtz SM, Field RE, Manley MT. Role of surgical position on interface stress and initial bone remodeling stimulus around hip resurfacing arthroplasty. *J Arthroplasty* 2009 Oct; 24(7):1137-1142.

Ong KL, Kurtz SM, Lau E, Bozic KJ, Berry DJ, Parvizi J. Prosthetic joint infection risk after total hip arthroplasty in the Medicare population. *J Arthroplasty* 2009 Sep; 24(6 Suppl):105-109.

Ong K, Lau E, Manley M, Kurtz SM. Patient, hospital, and procedure characteristics influencing total hip and knee arthroplasty procedure duration. *J Arthroplasty* 2009 Sep; 24(6):925-931.

Ong KL, Rundell S, Liepins I, Laurent R, Markel D, Kurtz SM. Biomechanical modeling of acetabular component polyethylene stresses, fracture risk, and wear rate following press-fit implantation. *J Orthop Res* 2009 Jun 1; 27(11):1467-1472.

Medel F, Kurtz SM, Klein G, Levine H, Sharkey P, Austin M, et al. Clinical, surface damage and oxidative performance of Poly II tibial inserts after long-term implantation. *Journal of long-term effects of medical implants* 2008; 18(2):151-165.

Ong KL, Lau E, Manley M, Kurtz SM. Effect of procedure duration on total hip arthroplasty and total knee arthroplasty survivorship in the United States Medicare population. *J Arthroplasty* 2008 Jun 12; 23(6 Suppl 1):127-132.

Kurtz SM, Medel F, Manley M. Wear in highly crosslinked polyethylenes. *Current Orthopaedics* 2008; 22:392-399.

Kurtz SM, Lau E, Schmier J, Ong KL, Zhao K, Parvizi J. Infection burden for hip and knee arthroplasty in the United States. *J Arthroplasty* 2008; 23(7):984-991.

Kurtz SM, Walker PS. How have new designs and new types of joint replacement influenced wear behavior? *J American Academy of Orthopaedic Surgeons* 2008; 16 Suppl 1:S107-110.

Kurtz SM, Patwardhan A, MacDonald D, Ciccarelli L, van Ooij A, Lorenz M, Zindrick M, O'Leary P, Isaza J, Ross R. What is the correlation of in vivo wear and damage patterns with in vitro TDR motion response? *Spine* 2008; 33(5):481-489.

Walter WL, Waters TS, Gillies M, Donohoo S, Kurtz SM, Ranawat AS, et al. Squeaking hips. *J Bone Joint Surg Am* 2008; 90 Suppl 4:102-111.

Ong KL, Manley MT, Kurtz SM. Have contemporary hip resurfacing designs reached maturity? A review. *J Bone Joint Surg Am* 2008; 90 Suppl 3:81-88.

Restrepo C, Parvizi J, Kurtz SM, Sharkey PF, Hozack WJ, Rothman RH. The noisy ceramic hip: Is component malpositioning the cause? *J Arthroplasty* 2008; 23(5):643-649.

Sobieraj MC, Kurtz SM, Wang A, Manley MM, Rimnac CM. Notched stress-strain behavior of a conventional and a sequentially annealed highly crosslinked UHMWPE. *Biomaterials* 2008; 29(35):4575-4583.

Lau E, Ong K, Kurtz S, Schmier J, Edidin A. Mortality following the diagnosis of a vertebral compression fracture in the Medicare population. *J Bone Joint Surg Am* 2008; 90(7):1479-1486.

Manley M, Ong K, Lau E, Kurtz SM. Effect of volume on total hip arthroplasty revision rates in the United States Medicare population. *J Bone Joint Surg Am* 2008; 90(11):2446-2451.

Ong K, Kurtz S. The use of modeling to predict implant behaviour. *Med Device Technol* 2008; 19(5):64-66.

Rundell SA, Auerbach JD, Balderston RA, Kurtz SM. Total disc replacement positioning affects facet contact forces and vertebral body strains. *Spine* 2008; (23):2510-2517.

Punt IM, Visser VM, van Rhijn LW, Kurtz SM, Antonis J, Schurink GW, van Ooij A. Complications and reoperations of the SB Charite lumbar disc prosthesis: Experience in 75 patients. *Eur Spine J* 2008; 17(1):36-43.

Kurtz SM, Ong KL, Schmier J, Mowat F, Saleh K, Dybvik E, Karrholm J, Garellick G, Havelin LI, Furnes O, Malchau H, Lau E. Future clinical and economic impact of revision total hip and knee arthroplasty. *J Bone Joint Surg Am* 2007; 89(Suppl 3):144-151.

Kurtz SM, Devine JN. PEEK biomaterials in trauma, orthopedic, and spinal implants. *Biomaterials* 2007; 28(32):4845-4869.

Kurtz SM, Ong K, Lau E, Mowat F, Halpern M. Projections of primary and revision hip and knee

arthroplasty in the United States from 2005 to 2030. *J Bone Joint Surg Am* 2007; 89(4):780-785.

Kurtz SM, van Ooij A, Ross ERS, de Waal Malefijt J, Pelozo P, Ciccarelli L, Villarraga ML. Polyethylene wear and rim fracture in total disc arthroplasty. *Spine J* 2007; 7(1):12-21.

van Ooij A, Kurtz SM, Stessels F, Noten H, van Rhijn L. Polyethylene wear debris and long-term clinical failure of the Charite disc prosthesis: A study of 4 patients. *Spine* 2007; 32(2):223-229, 2007.

Kurtz SM, Hozack WJ, Purtill JJ, Marcolongo M, Kraay MJ, Goldberg VM, Sharkey PF, Parvizi P, Rimnac CM, Edidin AA. Significance of in vivo degradation for polyethylene in total hip arthroplasty. *Clin Orthop Relat Res* 2006; 453:47-57. (2006 OTTO AUFRANC AWARD PAPER).

Anderson PA, Kurtz SM, Toth JM. Explant analysis of total disc replacement. *Seminars in Spine Surgery* 2006; 18(2):1-12.

Manley MT, Ong KL, Kurtz SM. The potential for bone loss in acetabular structures following THA. *Clin Orthop Relat Res* 2006; 453:246-253.

Grochowsky JC, Alaways LW, Siskey R, Most E, Kurtz SM. Digital photogrammetry for quantitative wear analysis of retrieved TKA components. *J Biomed Mater Res B Appl Biomater* 2006; 79(2):263-267.

Costa L, Bracco P, Brach del Prever EM, Kurtz SM, Gallinaro P. Oxidation and oxidation potential in contemporary packaging for polyethylene total joint replacement components. *J Biomed Mater Res B Appl Biomater* 2006; 78(1):20-26.

Ong KL, Mowat FS, Chan N, Lau E, Halpern MT, Kurtz SM. Economic burden of revision hip and knee arthroplasty in Medicare enrollees. *Clin Orthop Relat Res* 2006; 446:22-28.

Kurtz SM, Lau E, Halpern MT, Ong KL. Statistical trend shows growing orthopedic surgery case load. Will surgeons be able to keep up? *Mater Manag Health Care* 2006; 15(7):61-62.

Kurtz SM, Siskey R, Ciccarelli L, van Ooij A, Pelozo J, Villarraga ML. Retrieval analysis of total disc replacements: Implications for standardized wear testing. *J ASTM International* 2006; 3(6):1-12.

Mazzucco DC, Dumbleton J, Kurtz SM. Can accelerated aqueous aging simulate in vivo oxidation of gamma-sterilized UHMWPE? *J Biomed Mater Res B Appl Biomater* 2006; 79(1):79-85.

Ong KL, Kurtz SM, Manley MT, Rushton N, Mohammed NA, Field RE. Biomechanics of the Birmingham hip resurfacing arthroplasty. *J Bone Joint Surg Br* 2006; 88(8):1110-1115.

Kurtz SM, Mazzucco D, Rimnac CM, Schroeder D. Anisotropy and oxidative resistance of highly crosslinked UHMWPE after deformation processing by solid-state ram extrusion. *Biomaterials* 2006; 27(1):24-34.

Gencur SJ, Rimnac CM, Kurtz SM. Fatigue crack propagation resistance of virgin and highly crosslinked, thermally treated ultra-high molecular weight polyethylene. *Biomaterials* 2006; 27(8):1550-1557.

Kurtz SM, Pelozo J, Siskey R, Villarraga ML. Analysis of a retrieved polyethylene total disc replacement component. *Spine J* 2005; 5(3):344-350.

Bowden AE, Kurtz SM, Edidin AA. Validation of a micro-CT technique for measuring volumetric wear in retrieved acetabular liners. *J Biomed Mater Res B Appl Biomater* 2005; 75(1):205-209.

Kurtz SM, Mowat F, Ong K, Chan N, Lau E, Halpern M. Prevalence of primary and revision total hip and knee arthroplasty in the United States from 1990 through 2002. *J Bone Joint Surg Am* 2005; 87(7):1487-

1497.

Kurtz SM, Rimnac CM, Hozack WJ, Turner J, Marcolongo M, Goldberg VM, et al. In vivo degradation of polyethylene liners after gamma sterilization in air. *J Bone Joint Surg Am* 2005; 87-A(4):815-823.

Rimnac CM, Kurtz SM. Ionizing radiation and orthopedic prostheses. *Radiat Phys Chem* 2005; 236:30-37.

Kurtz SM, Harrigan TP, Herr M, Manley MT. An in vitro model for fluid pressurization of screw holes in metal-backed total joint components. *J Arthroplasty* 2005; 20(7):932-938.

Kurtz SM, Hozack W, Turner J, Purtill J, MacDonald D, Sharkey P, et al. Mechanical properties of retrieved highly cross-linked Crossfire liners after short-term implantation. *J Arthroplasty* 2005; 20(7):840-849.

Sobieraj MC, Kurtz SM, Rimnac CM. Large deformation compression induced crystallinity degradation of conventional and highly crosslinked UHMWPEs. *Biomaterials* 2005; 26(33):6430-6439.

Kurtz SM, Bergström J, Rimnac CM. Failure property distributions for conventional and highly crosslinked ultrahigh molecular weight polyethylenes. *J Biomed Mater Res B Appl Biomater* 2005; 73(2):214-220.

Bergström JS, Rimnac CM, Kurtz SM. Molecular chain stretch is a multi-axial failure criterion for conventional and highly crosslinked UHMWPE. *J Orthop Res* 2005; 23(2):367-375.

Sobieraj MC, Kurtz SM, Rimnac CM. Notch strengthening and hardening behavior of conventional and highly crosslinked UHMWPE under applied tensile loading. *Biomaterials* 2005; 26(17):3411-3426.

Kurtz SM, Villarraga ML, Zhao K, Edidin AA. Static and fatigue mechanical behavior of bone cement with elevated barium sulfate content for treatment of vertebral compression fractures. *Biomaterials* 2005; 26:3699-3712.

Villarraga ML, Bellezza AJ, Harrigan T, Cripton PA, Kurtz SM, Edidin AA. The biomechanical effects of kyphoplasty on treated and adjacent non-treated vertebral bodies. *J Spinal Disord Tech* 2005; 18 (1):84-91.

Bergström JS, Rimnac CM, Kurtz SM. An augmented hybrid constitutive model for simulation of unloading and cyclic loading behavior of conventional and highly crosslinked UHMWPE. *Biomaterials* 2004; 25:2171-2178.

Villarraga ML, Most E, Kurtz SM. Risk communication of medical device failures. *Update Magazine: Food and Drug Law, Regulation and Education* 2004; 5:18-31.

Villarraga ML, Cripton PA, Bellezza AJ, Berlemann U, Kurtz SM, Edidin AA. Stress levels in bones and bone cement in the thoracolumbar spine after kyphoplasty. Finite element study. *Orthopade* 2004; 33:48-55.

Kurtz SM, Hozack W, Marcolongo M, Turner J, Rimnac C, Edidin A. Degradation of mechanical properties of UHMWPE acetabular liners following long-term implantation. *J Arthroplasty* 2003; 18:68-78.

Gencur SJ, Rimnac CM, Kurtz SM. Failure micromechanisms during uniaxial tensile fracture of conventional and highly crosslinked ultra-high molecular weight polyethylenes. *Biomaterials* 2003; 24:3947-3954.

Bergström JS, Rimnac CM, Kurtz SM. Prediction of multi-axial mechanical behavior for conventional and highly crosslinked UHMWPE using a hybrid constitutive model. *Biomaterials* 2003; 24:1365-1380.

Villarraga ML, Kurtz SM, Herr MP, Edidin AA. Multiaxial fatigue behavior of conventional and highly crosslinked UHMWPE during cyclic small punch testing. *J Biomed Mater Res* 2003; 66A:298-309.

Ambrosio AM, Sahota JS, Runge C, Kurtz SM, Lakshmi S, Allcock HR, Laurencin CT. Novel polyphosphazene-hydroxyapatite composites as biomaterials. *IEEE Eng Med Biol Mag* 2003; 22:18-26.

Kurtz SM, Manley M, Wang A, Taylor S, Dumbleton J. Comparison of the properties of annealed crosslinked (Crossfire) and conventional polyethylene as hip bearing materials. *Bull Hosp Jt Dis*, 61 2002-2003; 17-26.

Kurtz SM, Jewett CW, Bergstrom JS, Foulds JR, Edidin AA. Miniature specimen shear punch test for UHMWPE used in total joint replacements. *Biomaterials* 2002; 23:1907-1919.

Kurtz SM, Muratoglu OK, et al. Interlaboratory validation of oxidation-index measurement methods for UHMWPE after long-term shelf aging. *J Biomed Mater Res* 2002; 63:15-23.

Kurtz S, Villarraga ML, et al. Thermomechanical behavior of virgin and highly crosslinked ultra-high molecular weight polyethylene used in total joint replacements. *Biomaterials* 2002; 23:3681-3697.

Kurtz SM, Turner JL, Herr M, Edidin AA. Deconvolution of surface topology for quantification of initial wear in highly cross-linked acetabular components for THA. *J Biomed Mater Res* 2002; 63:492--500.

Edidin AA, Herr MP, Villarraga ML, Muth J, Yau SS, Kurtz SM. Accelerated aging studies of UHMWPE. I. Effect of resin, processing, and radiation environment on resistance to mechanical degradation. *J Biomed Mater Res* 2002; 61:312--22.

Edidin AA, Villarraga ML, Herr MP, Muth J, Yau SS, Kurtz SM. Accelerated aging studies of UHMWPE. II. Virgin UHMWPE is not immune to oxidative degradation. *J Biomed Mater Res* 2002; 61:323-329.

Bergström JS, Kurtz SM, Rimnac CM, Edidin AA. Constitutive modeling of ultra-high molecular weight polyethylene under large-deformation and cyclic loading conditions. *Biomaterials* 2002; 23:2329-2343.

Dharmastiti R, Barton DC, Fisher J, Edidin A, Kurtz S. The wear of oriented UHMWPE under isotropically rough and scratched counterface test conditions. *Biomed Mater Eng* 2001; 11:241-56.

Edidin AA, Rimnac CM, Goldberg V, Kurtz SM. Mechanical behavior, wear surface morphology, and clinical performance of UHMWPE acetabular components after 10 years of implantation. *Wear* 2001; 250:152-158.

Giddings VL, Kurtz SM, Jewett CW, Foulds JR, Edidin AA. A small punch test technique for characterizing the elastic modulus and fracture behavior of PMMA bone cement used in total joint replacement. *Biomaterials* 2001; 22:1875-1881.

Giddings VL, Kurtz SM, Edidin AA. Total knee replacement polyethylene stresses during loading in a knee simulator. *J Tribology* 2001; 123:842-847.

Kurtz SM, Muratoglu OK, Buchanan F, et al. Interlaboratory reproducibility of standard accelerated aging methods for oxidation of UHMWPE. *Biomaterials* 2001; 22:1731-1737.

Kurtz SM, Muratoglu OK, Buchanan F, et al. Interlaboratory studies to determine optimal methods for measuring the oxidation index of UHMWPE. *Biomaterials* 2001; 22:2875-2881.

Kurtz SM, Rimnac CM, Pruitt L, Jewett CW, Goldberg V, Edidin AA. The relationship between the clinical performance and large deformation mechanical behavior of retrieved UHMWPE tibial inserts. *Biomaterials*

2000; 21:283-291.

Kurtz SM, Muhlstein C, Edidin AA. Surface morphology and wear mechanisms of four clinically relevant biomaterials after hip simulator testing. *J Biomed Mat Res* 2000; 52:447-459.

Edidin AA, Kurtz SM. The influence of mechanical behavior on the wear of four clinically relevant polymeric biomaterials in a hip simulator. *J Arthroplasty* 2000; 15:321-331.

Edidin AA, Jewett CW, Kwarteng K, Kalinowski A, Kurtz SM. Degradation of mechanical behavior in UHMWPE after natural and accelerated aging. *Biomaterials* 2000; 21:1451-1460.

Kurtz SM, Muratolgu OK, Evans M, Edidin AA. Advances in the processing, sterilization, and crosslinking of ultra-high molecular weight polyethylene for total joint arthroplasty. *Biomaterials* 1999; 20:1659-1688.

Edidin AA, Pruitt L, Jewett CW, Crane D, Roberts D, Kurtz SM. Plasticity-induced damage layer is a precursor to wear in radiation-crosslinked UHMWPE acetabular components for total hip replacement. *J Arthroplasty* 1999; 14:616-627.

Kurtz SM, Ochoa JA, Hovey CB, White CV. Simulation of initial frontside and backside wear rates in a modular acetabular component with multiple screw holes. *J Biomech* 1999; 32:967-976.

Kurtz SM, Pruitt LA, Jewett CW, Foulds JR, Edidin AA. Radiation and peroxide crosslinking promote strain hardening behavior and molecular alignment in UHMWPE during multiaxial loading conditions. *Biomaterials* 1999; 20:1449-1462.

Kurtz SM, Pruitt LA, Crane DJ, Edidin AA. Evolution of morphology in UHMWPE following accelerated aging: The effect of heating rates. *J Biomed Mater Res* 1999; 46:112-120.

Kurtz SM, Jewett CW, Foulds JR, Edidin AA. A miniature-specimen mechanical testing technique scaled to the articulating surface of polyethylene components for total joint arthroplasty. *J Biomed Mater Res (Appl Biomater)* 1999; 48:75-81.

Kurtz SM, Pruitt L, Jewett CW, Crawford RP, Crane DJ, Edidin AA. The yielding, plastic flow, and fracture behavior of ultra-high molecular weight polyethylene used in total joint replacements. *Biomaterials* 1998; 19:1989-2003.

Kurtz SM, Ochoa JA, White CV, Srivastav S, Cournoyer J. Backside nonconformity and locking restraints affect liner/shell load transfer mechanisms and relative motion in modular acetabular components for total hip replacement. *J Biomech* 1998; 31:431-437.

Kurtz SM, Rimnac CM, Bartel DL. Predictive model for the tensile true stress-strain behavior of chemically and mechanically degraded ultra-high molecular weight polyethylene. *J Biomed Mat Res (Appl)* 1998; 43:241-248.

Kurtz SM, Bartel DL, Rimnac CM. Post-irradiation aging affects the stresses and strains in UHMWPE components for total joint replacement. *Clin Orthop* 1998; 350:209-220.

Kurtz SM, Foulds JR, et al. Validation of a small punch testing technique to characterize the mechanical behavior of ultra-high molecular weight polyethylene. *Biomaterials* 1997; 18:1659-1663.

Kurtz SM, Edidin AA, Bartel DL. The role of backside polishing, cup angle, and polyethylene thickness on the contact stresses in metal-backed acetabular components. *J Biomech* 1997; 30:639-642.

Kurtz SM, Rimnac CM, Bartel DL. Degradation rate of ultra-high molecular weight polyethylene. *J Orthop Res* 1997; 15:57-61.

Kurtz SM, Rimnac CM, Santner TJ, Bartel DL. Exponential model for the tensile true stress-strain behavior of as-irradiated and oxidatively degraded ultra high molecular weight polyethylene. *J Orthop Res* 1996; 14:755-761.

Books

Kurtz SM. *The PEEK Biomaterials Handbook, Second Edition*. Plastics Design Library, William Andrew/Elsevier, Oxford, 2019 (In Press)

Mihalko WM, Lemons JE, Greenwald AS, Kurtz SM. *Beyond the Implant: Retrieval Analysis Methods for Implant Surveillance, STP 1606*. ASTM International, West Conshohoken, 2018.

Kurtz SM. *The UHMWPE Biomaterials Handbook: Ultra-High Molecular Weight Polyethylene in Total Joint Replacement and Medical Devices, Third Edition*. Academic Press, Burlington, 2016.

Greenwald AS, Kurtz SM, Mihalko WM, Lemons JE. *Modularity and Tapers in Total Joint Replacements, STP 1591*. American Society for Testing and Materials, West Conshohoken, 2015.

Kurtz SM, Greenwald AS, Mihalko WM, Lemons JE. *Metal-on-Metal Total Hip Replacement Devices. ASTM STP 1560*. American Society for Testing and Materials, West Conshohoken, 2013.

Kurtz SM. *The PEEK Biomaterials Handbook*. Plastics Design Library, William Andrew/Elsevier, Oxford, 2012.

Kurtz SM. *The UHMWPE Biomaterials Handbook: Ultra-High Molecular Weight Polyethylene in Total Joint Replacement and Medical Devices, Second Edition*. Academic Press, Burlington, 2009.

Kurtz SM, Edidin E. *The Spine Technology Handbook*. Academic Press, New York, NY, 2006.

Kurtz SM. *The UHMWPE Handbook: Ultra-high Molecular Weight Polyethylene in Total Joint Replacement*. Academic Press, New York, NY, 2004.

Kurtz SM, Gsell R, Martell J. *Highly Crosslinked and Thermally Treated Ultra-High Molecular Weight Polyethylene for Joint Replacements. ASTM STP 1445*. American Society for Testing and Materials, West Conshohoken, 2003.

Book Chapters

Arnholt C, Lowell J, Perkins M, Kurtz S, Mihalko W. *Analysis Techniques for Polyethylene Implants in Total Knee Arthroplasty*. In: Mihalko WM, Lemons JE, Greenwald AS, Kurtz SM, editors. *Beyond the Implant: Retrieval Analysis Methods for Implant Surveillance, STP 1606*. Conshohocken, PA: ASTM; 2018. p. 49-64.

Spece H, MacDonald D, Mont M, Lee GC, Kurtz S. *Fretting Corrosion and Polyethylene Damage Mechanisms in Modular Dual Mobility Total Hip Arthroplasty*. In: Mihalko WM, Lemons JE, Greenwald AS, Kurtz SM, editors. *Beyond the Implant: Retrieval Analysis Methods for Implant Surveillance, STP 1606*. Conshohocken, PA: ASTM; 2018. p. 106-117.

Torosyan Y, Bowsher J, Kurtz S, Mihalko W, Marinac-Dabic, D. *Opportunities and Challenges of Retrieval Analysis: The Role of Standardized Periprosthetic Tissue and Fluid Analysis for Assessing an Aggravated Host Response*. In: Mihalko WM, Lemons JE, Greenwald AS, Kurtz SM, editors. *Beyond the Implant: Retrieval Analysis Methods for Implant Surveillance, STP 1606*. Conshohocken, PA: ASTM; 2018. p. 215-228.

Ong KL, Baykal D, Lau E, Kurtz SM. Current and projected utilization of total joint replacements. In: Comprehensive Biomaterials II, vol. 7, pp. 1-11. Ducheyne P, Grainger DW, Healy KE, Hutmacher DW, and Kirkpatrick CJ (eds.), Elsevier Ltd., Oxford, UK, 2017.

Kurtz SM, MacDonald D, Gilbert J, Mont M, Klein G, Chen A, Kraay M, Hamlin B, Rimnac CM. Is taper fretting corrosion a threat to the clinical performance of large-diameter hips with highly crosslinked polyethylene bearings? In: Greenwald AS, Kurtz SM, Lemons J, Mihalko WM, editors. Modularity and Tapers in Total Joint Replacements, STP 1591. Conshohocken, PA: ASTM; 2015. p. 45-58.

Arnholt C, Underwood R, MacDonald RW, Higgs GB, Chen AF, Klein G, Hamlin B, Lee GC, Mont M, Cates H, Malkani A, Kraay M, Rimnac C, Kurtz SM. Microgrooved surface topography does not influence fretting corrosion of tapers in total hip arthroplasty: Classification and retrieval analysis. In: Greenwald AS, Kurtz SM, Lemons J, Mihalko WM, editors. Modularity and Tapers in Total Joint Replacements, STP 1591. Conshohocken, PA: ASTM; 2015. p. 99-112.

Day JS, MacDonald DW, Abboud JA, Williams GR, Rimnac CM, Kraay MJ, McCloskey RC, Arnholt CM, Kurtz SM. Mechanically assisted crevice corrosion damage in shoulder arthroplasty is comparable to hip arthroplasty. In: Greenwald AS, Kurtz SM, Lemons J, Mihalko WM, editors. Modularity and Tapers in Total Joint Replacements, STP 1591. Conshohocken, PA: ASTM; 2015. p. 181-91.

Higgs GB, Hanzlik JA, MacDonald DW, Kane WM, Day JS, Klein GR, Parviz iJ, Mont MA, Kraay MJ, Martell JM, Gilbert JL, Rimnac CM, Kurtz SM. Method of characterizing fretting and corrosion at the various taper connections of retrieved modular components from metal-on-metal total hip arthroplasty. In: Kurtz SM, Greenwald AS, Mihalko WM, Lemons J, editors. Metal-on-Metal Total Hip Replacement Devices, STP 1560. Conshohocken, PA: ASTM; 2013.

Kurtz SM, Ong KL, Lau E, Greenwald AS, Bozic K. Prevalence of metal-on-metal bearings in the United States. In: Kurtz SM, Greenwald AS, Mihalko WM, Lemons J, editors. Metal-on-Metal Total Hip Replacement Devices, STP 1560. Conshohocken, PA: ASTM; 2013.

Ong KL, Lau E, Kurtz SM. Risk of complications, revision, and cancer for metal-on-metal patients in the Medicare population. In: Kurtz SM, Greenwald AS, Mihalko WM, Lemons J, editors. Metal-on-Metal Total Hip Replacement Devices, STP 1560. Conshohocken, PA: ASTM; 2013.

Underwood RJ, Fowell M, Sayles R, Kurtz SM, Cann P. The development of a standard method for assessing wear of explanted metal-on-metal hip joints. In: Kurtz SM, Greenwald AS, Mihalko WM, Lemons J, editors. Metal-on-Metal Total Hip Replacement Devices, STP 1560. Conshohocken, PA: ASTM; 2013.

Underwood RJ, Kocagoz SB, Smith R, Sayles R, Siskey R, Kurtz SM, Cann P. A protocol to assess the wear of head/neck taper junctions in large head metal-on-metal (LHMoM) hips. In: Kurtz SM, Greenwald AS, Mihalko WM, Lemons J, editors. Metal-on-Metal Total Hip Replacement Devices, STP 1560. Conshohocken, PA: ASTM; 2013.

Jaekel DJ, Ong KL, Lau EC, Kurtz SM. The epidemiology of total joint arthroplasty infections. In: Infected total joint arthroplasty - the algorithmic approach. Trebše R (ed), Springer-Verlag, London, England, 2012.

Manley MT, Kurtz SM, Ong KL. Special topic: Stress shielding and osteolysis. In: Fundamentals of revision hip arthroplasty: diagnosis, evaluation, and treatment. Jacofsky DJ and Hedley AK (eds), Slack, Inc., Thorofare, NJ, 2012.

Manley MT, Kurtz SM, Ong KL. Special topic: Stress shielding and osteolysis. In: Fundamentals of revision knee arthroplasty: diagnosis, evaluation, and treatment. Jacofsky DJ and Hedley AK (eds), Slack, Inc., Thorofare, NJ, 2012.

Iannuzzi A, Kurtz SM. Explant analysis of wear, degradation, and fatigue in motion preserving spinal implants. In: Spine Surgery: Techniques, Complication Avoidance, and Management, 3rd Edition: Elsevier. Benzel, E (ed), pp. 1569-1578, 2012.

Oral E, Kurtz SM, Muratoglu OK. Ultrahigh molecular weight polyethylene total joint implants. In: Comprehensive Biomaterials: Elsevier. Ducheyne P, Healy KE, Hutmacher DW, Grainger DW, Kirkpatrick CJ (eds), pp. 29-49, 2011.

Kurtz SM, Ong KL, Lau E, Manley MT. Current and projected utilization of total joint replacements. In: Comprehensive Biomaterials. Ducheyne P, Healy KE, Hutmacher DW, Grainger DW, Kirkpatrick CJ (eds), Elsevier, pp. 1-9, 2011.

Siskey R, Kurtz SM. Tribology of total disc arthroplasty. In: Tribology and Bearing Surfaces in Total Joint Replacements. Streicher R (ed), Transworld Research Network, India 2011: 267-286.

Iannuzzi A, Kurtz SM. Sterilization of joint replacement materials. In: Joint Replacement Technology, New Developments. Revell P (ed), Woodhead Publishing Limited, Cambridge, 2008.

Kurtz SM, van Ooij A, Pelozo J, Villarraga ML. Retrieval analysis of arthroplasty devices. In: Spinal Arthroplasty: The Preservation of Motion. Vaccaro AR, Papadopoulos S, Traynelis V, Haid R, Jr., Sasso R (eds), Elsevier Health Sciences, Philadelphia, PA, 2007.

Kurtz SM, Turner J, Herr M, Edidin AA, Rimnac CM. Assessment of surface roughness and waviness using white light interferometry for short-term implanted, highly crosslinked acetabular components. In: Highly Crosslinked and Thermally Treated Ultra-High Molecular Weight Polyethylene For Joint Replacements. STP 1445. Kurtz SM, Gsell R, Martell J (eds), American Society for Testing and Materials, West Conshohoken, 2003.

Villarraga ML, Kurtz SM, Herr M, Edidin AA. Multiaxial fatigue behavior of oxidized and unoxidized UHMWPE during cyclic small punch testing at body temperature. In: Highly Crosslinked and Thermally Treated Ultra-High Molecular Weight Polyethylene For Joint Replacements. STP 1445. Kurtz SM, Gsell R, Martell J (eds), American Society for Testing and Materials, West Conshohoken, 2003.

Kurtz SM, Herr M, Edidin AA. The effect of specimen thickness on the mechanical behavior of UHMWPE characterized by the small punch test. In: Highly Crosslinked and Thermally Treated Ultra-High Molecular Weight Polyethylene For Joint Replacements. STP 1445. Kurtz SM, Gsell R, Martell J (eds), American Society for Testing and Materials, West Conshohoken, 2003.

Muratoglu O, Kurtz SM. Alternative bearing surfaces in hip replacement. In: Hip Replacement: Current Trends and Controversies. Singha R (ed), Marcel Dekker, New York, NY, 2002.

Kurtz SM, Srivastav S, Dwyer K, Ochoa J, Brown SB. Analysis of the stem-sleeve interface in a modular titanium alloy femoral component for total hip replacement. pp. 41-68. In: Functional Biomaterials. Katsube N, Soboyejo WO, Sacks M (eds), Trans Tech Publications, Switzerland, 2001.

Edidin AA, Kurtz SM. Development and validation of the small punch test for UHMWPE used in total joint replacements. pp. 1-40. In: Functional Biomaterials; Katsube N, Soboyejo WO, Sacks M (eds), Trans Tech Publications, Switzerland, 2001.

Scientific Exhibits

Ong KL, Lotke PA, Lau E, Manley MT, Kurtz SM. Prevalence and costs of rehabilitation and physical therapy after primary TJA. Scientific Exhibit 64, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Kurtz SM, MacDonald DL, Parvizi J, Klein GR, Marshall AD, Mont MA, Kraay MJ, Stulberg BN, Rimnac CM. Analyzing failure of total joint arthroplasty to enable future success: The role of a multicenter retrieval program, Scientific Exhibit No. 17, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Day J, Hanzlik J, Klein GR, Levine HB, Hartzband MA, Parvizi J, Kraay MJ, Rimnac CM, Kurtz SM. Porous coatings, Scientific Exhibit No. 18, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Siskey R, Hill GA, Peck J, Rundell SA, Kurtz SM. Impingement characterization of total disc replacements, Scientific Exhibit No. 69, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Kurtz SM, Ong KL, Greenwald S, Bozic K. Prevalence of primary metal-on-metal bearings in the United States. Scientific Exhibit No. 16, 78th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 15-19, 2011.

Edidin AA, Ong KL, Lau E, Kurtz SM. Mortality risk for operated and non-operated vertebral fracture patients in the Medicare population. Scientific Exhibit No. 56, 78th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 15-19, 2011.

Siskey SD, Day JS, Capello WN, D'Antonio JA, Kurtz SM, Ong KL. Late radiographic changes around a HA-coated stem: Feasibility of FE models to evaluate remodeling. Scientific Exhibit No. 17, 77th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 9-13, 2010.

Ong KL, Lau E, Villarraga ML, Glassman S, Kurtz SM. Evaluating on-label and off-label use of BMP in the U.S. using administrative data. Scientific Exhibit No. 71, 77th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 9-13, 2010.

Medel FJ, Kurtz SM, Klein G, Levine H, Sharkey P, Austin M, Goldberg V, Kraay M, Rimnac C. Revisiting the clinical and wear performance of Poly Two tibial inserts after long-term implantation. Scientific Exhibit No. SE24. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Bozic KJ, Kurtz SM, Lau E, Ong K, Vail TP, Rubash HE, Berry DJ. The epidemiology of revision total knee arthroplasty in the United States. Scientific Exhibit No. SE84. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Kurtz SM, Hozack W, Parvizi J, Purtill J, Sharkey P, MacDonald D, Kraay M, Goldberg V, Rimnac CM. Gamma inert sterilization: A solution to polyethylene oxidation? Scientific Exhibit No. SE06. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Walter WL, Gillies RM, Donohoo S, Kurtz SM, Ranawat AS, Hozack WJ, Tuke MA, Waters TS. Squeaking hips. Scientific Exhibit No. SE13. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Ong K, Lau E, Ianuzzi A, Villarraga ML, Kurtz SM. Future demand in spine fusions: U.S. projections to 2030. Scientific Exhibit No. SE64. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Kurtz SM, Ong KL, Schmier J, Mowat F, Saleh K, Dybvik E, Karrholm J, Garellick G, Havelin LI, Furnes O, Malchau H, Lau E. Future clinical and economic impact of revision THA and TKA. Scientific Exhibit No. SE39. 74th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 14-18, 2007.

Kurtz SM, Lau E, Zhao K, Mowat F, Ong KL, Halpern M. The future burden of hip and knee revisions: U.S. projections from 2005 to 2030. Scientific Exhibit No. SE53. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Ong KL, Day J, Manley M, Kurtz SM. Biomechanics of the Birmingham hip resurfacing arthroplasty. Scientific Exhibit No. SE13. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Kurtz SM, Ong KL, Manley M. Periprosthetic bone stresses in modular acetabular components of hip replacement for young patients. Scientific Exhibit No. SE21. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Conference Papers and Abstracts

Arnholt CM, Patel J, Lal S, White JB, Perkins MR, Mihalko WM, Tipper J, Kurtz SM. Metallic Wear Debris Isolation and Characterization: A Cadaver TKA Study. Paper 5904, International Society for Technology in Arthroplasty, London, UK, October 10-13, 2018.

Arnholt CM, White JB, Macdonald DW, Lowell JA, Perkins MR, Mihalko WM, Kurtz SM. Metallosis and Tissue Metal Concentrations From Autopsy Retrieved TKA. Paper 5905, International Society for Technology in Arthroplasty, London, UK, October 10-13, 2018.

Higgs GB, Gerveshi C, Evans A, Tabb L, Kurtz SM. Incorporating Retrieval Analysis into Database Research to Understand the Role of Periprosthetic Joint Infection on Taper Corrosion in Total Hip Replacements. Paper 133, 7th Annual International Congress of Arthroplasty Registries, Reykjavik, Iceland, June 9-11, 2018.

Basgul C, Yu T, Dobson B, MacDonald DW, Siskey R, Marcolongo M, Kurtz SM. Characterization of 3D Printed PEEK Lumbar Interbody Fusion Devices via Fused Filament Fabrication. Annual Meeting of the Society for Biomaterials. Atlanta, GA, April 11-14, 2018.

Basgul C, Yu T, Dobson B, MacDonald DW, Siskey R, Marcolongo M, Kurtz SM. Is It Possible to Ensure Enough Strength via 3D Printing for PEEK Lumbar Interbody Fusion Devices? Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 6-10, 2018.

Jablonowski LJ, Basgul C, MacDonald DW, Hickock NJ, Kurtz SM, Forsberg F. Ultrasound Triggered Antibiotic Release from Novel Spinal Fusion Hardware. Poster 326, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Basgul C, Yu T, MacDonald DW, Dobson B, Baxter JN, Siskey R, Marcolongo M, Kurtz SM. Is It Possible to Ensure Enough Strength via 3D Printing for PEEK Lumbar Interbody Fusion Devices? Poster 1262, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Basgul C, Yu T, MacDonald DW, Dobson B, Baxter JN, Siskey R, Marcolongo M, Kurtz SM. Characterization of the Microstructure and Porosity of FFF 3D Printed PEEK Lumbar Spinal Cages. Poster 1267, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Spece H, Underwood RJ, MacDonald DW, Baykal D, Klein GR, Chen AF, Lee GC, Kurtz SM. Is there Material Loss at the Conical Junctions of Modular Femoral Components for TKA? Poster 1886, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Basgul C, Yu T, Dobson B, MacDonald DW, Siskey R, Marcolongo M, Kurtz SM. Is It Possible to Ensure Enough Strength via 3D Printing for PEEK Lumbar Interbody Fusion Devices? Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 6-10, 2018.

Arnholt CM, Perkins MR, Lowell JA, Kerkhof A, MacDonald DW, Mihalko WM, Kurtz SM. Damage Mechanisms in Total Knee Arthroplasty (TKA) Femoral Components: Revisiting Inflammatory Cell Induced Corrosion (ICIC). Poster 1004, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Arnholt CM, White JB, Higgs GB, MacDonald DW, Lowell JA, Perkins MR, Mihalko WM, Kurtz SM. Associations Between Metallosis and Tissue Metal Concentration in Autopsy Retrieved TKA. Paper 207, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Higgs GB, MacDonald DW, Lowell J, Padayatil A, Mihalko WM, Siskey RL, Gilbert JL, Rimnac CM, Kurtz SM. Does Corrosion Loosen the Taper Connection of Femoral Components in Total Hip Replacements? Paper 0276, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Higgs GB, Gerveshi C, Tabb L, Kurtz SM. Combining Retrieval Research with Epidemiology to Understand the Role of Periprosthetic Joint Infection on the Oxidative Degradation of Total Hip Replacements. Poster 1807, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Lowell JA, Perkins MR, Arnholt CM, White JB, MacDonald DW, Kerkhof A, Kurtz SM, Mihalko WM. Establishing a Baseline for the Relationship between Inflammatory Cytokines and Tissue Metal Concentrations in Autopsy Retrieved Total Hip Implants. Poster 1006, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Perkins MR, Lowell JA, Butler R, Arnholt CM, White JB, Kerkhof A, MacDonald DW, Kurtz SM, Mihalko WM. Does a Correlation Exist between Soft Tissue Laxity and Tissue Metal Concentrations in Total Knee Arthroplasty (TKA)? Poster 991, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Schachtner JT; MacDonald DW; Klein GR; Kraay M; Rimnac RM; Kurtz SM. A Comparison Of Short-term Anti-Oxidant And Remelted HXLPE In THA. Poster #0985, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Schachtner JT; MacDonald DW; Klein GR; Chen AF; Kraay M; Malkani A; Mont MA; Rimnac CM; Kurtz SM. Long-term In Vivo Degradation of 1st Generation Highly Crosslinked Polyethylene in THA. Poster #0990, Transactions of the Orthopaedic Research Society, New Orleans, LA, March 10-13, 2018.

Ong KL, Niazi F, Lau E, Shaw P, Kurtz SM. Cost patterns following the diagnosis of knee osteoarthritis in the Blue Cross/Blue Shield patient population. Paper, Orthopaedic Summit 2017, Las Vegas, NV, December 6-9, 2017.

Ong KL, Niazi F, Lau E, Shaw P, Kurtz SM. Comparison of the Costs for Hyaluronic Acid and Total Knee Arthroplasty in the Treatment of OA for the Blue Cross/Blue Shield Patient Population. Poster No. 1093, American College of Rheumatology Annual Meeting, San Diego, CA, November 2-5, 2017.

Spece H, MacDonald DW, Mont M, Lee G-C, Kurtz, SM. Fretting Corrosion and Polyethylene Damage Mechanisms in Modular Dual Mobility Total Hip Arthroplasty. Paper #27, 27th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 2-5, 2017.

Perkins MR, Lowell JA, Arnholt CM, MacDonald DW, Kerkhof A, Kurtz SM, Mihalko WM. Are Soft Tissue Laxity and Tissue Metal Concentrations After Total Knee Arthroplasty Related? Poster, 27th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 2-5, 2017.

Higgs GB, Gerveshi C, Evans A, Tabb L, Kurtz SM. Bridging the Gap Between Implant Retrieval Research and Epidemiological Studies using Survival Analysis. Poster #6, 27th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 2-5, 2017.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Has Healthcare Reform Legislation Reduced the Economic Burden of 90-day Readmissions following Total Knee Arthroplasty? Paper No. 236, Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, California, March 14-18, 2017.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Economic Burden of 90-day Readmissions following Total Hip Arthroplasty: What Are the Roles of Patient, Clinical, and Hospital Factors? Paper No. 591, Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, California, March 14-18, 2017.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Has Healthcare Reform Legislation Reduced the Economic Burden of 90-day Readmissions following Total Hip Arthroplasty? Paper No. 699, Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, California, March 14-18, 2017.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Has Health Care Reform Legislation Reduced the Economic Burden of 90-Day Readmissions following Total Hip Arthroplasty? Poster Presentation, 26th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 10-13, 2016.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Which Factors Drive the National Economic Burden of Hospital Readmissions following Total Knee Arthroplasty? Poster Presentation, 26th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 10-13, 2016.

Mont M, Elmallah R, Chughtai M, Kurtz S, Bozic K, Adib F. Determining Health-Related Quality-of-life Outcomes Using the SF-6D Following Total Hip Arthroplasty. Poster Presentation, 26th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 10-13, 2016.

Kurtz S, MacDonald D, Kocagoz S, Arnholt C, Underwood R, Rimnac C, Gilbert J. Matched Cohort Retrieval Studies: What Can They Teach Us About Implant Design Factors Related to Taper Corrosion? Podium Presentation, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

Kurtz S, Lau E, Baykal D, Springer B. Outcomes of Ceramic Bearings After Primary THA in the Medicare Population. Podium Presentation, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

Weisenburger J, Kyomoto M, Siskey R, Kurtz S, Garvin K, Haider H. Friction and Wear in Phospholipid Polymer Surface Treated Ceramic on Polyethylene Total Hip Replacements. Podium Presentation, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

MacDonald D, Caton T, Higgs G, Malkani A, Chen A, Mont M, Kurtz S. Oxidation, Damage Mechanisms, and Reasons for Revision of Sequentially Annealed HXLPE. Podium Presentation, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

MacDonald D, Chen A, Lee GC, Klein G, Cates H, Mont M, Rimnac C, Kurtz S. Fretting and Corrosion Damage in Taper Adapter Sleeves: A Retrieval Study. Podium Presentation, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

Mihalko W, Lowell J, Woodard E, Arnholt C, MacDonald D, Kurtz S. Joint Laxity Does Not Correlate to Implant Damage Scores in Necropsy TKA Retrievals. Podium Presentation, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

Arnholt C, MacDonald D, Lowell J, Gilbert J, Mihalko W, Kurtz S. Metal Release and Damage Mechanisms in Autopsy Total Knee Arthroplasty Femoral Components, E-Poster Presentation with Short Talk, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

Day J, MacDonald D, Kraay M, Rimnac C, Williams G, Abboud J, Kurtz S. Polyethylene Bearing Surface Wear in Reverse Total Shoulder Arthroplasty, E-Poster Presentation with Short Talk, ISTA 2016: Annual Congress of the International Society for Technology in Arthroplasty, Boston, Massachusetts, October 5-8, 2016.

MacDonald D, Chen A, Lee GC, Klein G, Cates H, Mont M, Rimnac C, Kurtz S. Fretting and Corrosion Damage in Taper Adapter Sleeves: A Retrieval Study. Abstract ID 45344. 37th SICOT Orthopaedic World Congress, Rome, Italy, September 8-10, 2016.

Kurtz S, Lau E, Baykal D, Springer B. Outcomes of Ceramic Bearings After Revision THA in the Medicare Population. Abstract ID 42868. 37th SICOT Orthopaedic World Congress, Rome, Italy, September 8-10, 2016.

Niazi F, Ong K, Anderson A, Lau E, Kurtz S, Altman R. Use of low molecular weight hyaluronic acid is associated with a shorter time to knee arthroplasty in the elderly U.S. knee OA Population. Abstract ID 43047. 37th SICOT Orthopaedic World Congress, Rome, Italy, September 8-10, 2016.

Niazi F, Ong K, Anderson A, Lau E, Kurtz S, Altman R. Synergistic effects of hyaluronic acid and corticosteroid injections in extending time to knee arthroplasty in knee osteoarthritis patients. Abstract ID 43046. 37th SICOT Orthopaedic World Congress, Rome, Italy, September 8-10, 2016.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Which Hospital and Clinical Factors Drive 30-Day Readmission in THA? Paper No. 172, Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, Florida, March 1-5, 2016.

Kurtz SM, Lau E, Ong K, Adler E, Kolisek F, Manley M. Which Hospital and Clinical Factors Drive 30-Day Readmission in TKA? Paper No. 305, Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, Florida, March 1-5, 2016.

Arnholt CM, MacDonald D, Kocagoz S, Chen A, Cates H, Klein GR, Rimnac CM, Kurtz SM. Bearing Surface Corrosion and Damage Mechanisms in Retrieved Total Knee Arthroplasty Femoral Components. Paper No. 468, Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, Florida, March 1-5, 2016.

Ong K, Anderson A, Lau E, Niazi F, Kurtz S, Altman R. Synergistic effects of hyaluronic acid and corticosteroid injections to delay knee arthroplasty in knee OA patients. Poster 2228, Transactions of the Orthopaedic Research Society, Orlando, Florida, March 5-8, 2016.

Kurtz SM, Lau E, Baykal D, Springer B. Outcomes of Ceramic Bearings After Revision Total Hip Arthroplasty in the US Medicare Population. Podium Presentation 5A-7. ISTA 2015: Annual Congress of the International Society for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

MacDonald D, Mehta K, Klein GR, Hatzband M, Levine HB, Mont M, Kurtz SM. Retrieval Analysis of Short-Term Anti-Oxidant Stabilized HXLPE Used in Hip and Knee Arthroplasty. Podium Presentation 9B-2. ISTA 2015: Annual Congress of the International Society for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

Arnholt C, MacDonald D, Kocagoz S, Chen A, Cates H, Klein GR, Rimnac C, Kurtz SM. Bearing Surface Abrasive Wear and Corrosion Damage Mechanisms in Retrieved CoCr Alloy Femoral Components for Contemporary TKA. Podium Presentation 9B-3. ISTA 2015: Annual Congress of the International Society

for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

MacDonald DW, Schachtner J, Chen A, Cates H, Klein GR, Mont MA, Kraay M, Malkani A, Lee GC, Hamlin B, Rimnac CM, Kurtz SM. Wear and Oxidation of Retrieved, Long-Term, 1st Generation HXLPE Components in THA. EPoster 1-1-3. ISTA 2015: Annual Congress of the International Society for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

Kurtz SM Arnholt CM, Underwood RJ, MacDonald DW, Higgs GB, Underwood R, Chen A, Klein GR, Hamlin B, Lee GC, Mont MA, Cates H, Malkani A, Kraay M, Rimnac CM. Do Stem Taper Microgrooves Influence Taper Corrosion in Total Hip Arthroplasty? A Matched Cohort Study. EPoster 1-4-6. ISTA 2015: Annual Congress of the International Society for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

Kurtz SM Arnholt CM, Underwood RJ, MacDonald DW, Higgs GB, Underwood R, Chen A, Klein GR, Hamlin B, Lee GC, Mont MA, Cates H, Malkani A, Kraay M, Rimnac CM. Do Stem Taper Microgrooves Influence Taper Corrosion in Total Hip Arthroplasty? A Matched Cohort Study. EPoster 1-4-6. ISTA 2015: Annual Congress of the International Society for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

Hanzlik J, Day J, Kurtz S, Verdonschot N, Janssen D. Does Implant Design, Bone Quality and Activity Type Affect Micromotion at the Bone-Porous Tantalum Tibial Tray Interface? EPoster 4-7-5. ISTA 2015: Annual Congress of the International Society for Technology in Arthroplasty, Vienna, Austria, September 30-October 3, 2015.

Arnholt C, Underwood R, MacDonald DW, Higgs GB, Chen A, Klein GR, Kraay M, Rimnac, C, Kurtz SM. Micro-Grooved Surface Topography Does Not Influence Fretting Corrosion Of Tapers In THA: Classification And Analysis. Free Paper. Transactions of the 16th EFORT Congress, Prague, Czech Republic, May 27-29, 2015.

Kurtz SM, Lau E, Ong K, Katz JN, Bozic KJ. Universal Health Coverage and Total Joint Arthroplasty: Implications from the Massachusetts Experience. Paper No. 333, Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, March 24th - 28st, 2015.

Bozic KJ, Ong K, Lau E, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Trends in Short- and Mid-Term Risk of Revision THA following Primary THA in Medicare Patients. Paper No. 687, Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, March 24th - 28st, 2015.

Lovald S, Ong K, Lau E, Joshi G, Kurtz SM, Malkani AL. Patient Selection for Short-Stay Total Hip Arthroplasty. Poster No. P061, Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, March 24th - 28st, 2015.

MacDonald DW, Clarkin-Wright G, Parvizi J, Lee GC, Klein GR, Kraay M, Rimnac CM, Gilbert JL, Kurtz SM. Titanium Alloy Sleeves Do Not Prevent Fretting Corrosion in Modular THA. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Hanzlik JA, Day JS, Klein GR, Levine HB, Hartzband MA, Parvizi J, Kraay MJ, Rimnac CM, Kurtz SM. What Implant Factors Affect Bone Ingrowth in Retrieved Porous Tantalum Hip Implants? Poster 977, Transactions of the Orthopaedic Research Society, Las Vegas, Nevada, March 28 - 31, 2015.

Mehta K, MacDonald DW, Klein GR, Hartzband M, Levine H, Mont MA, Kurtz SM. Retrieval Analysis of Short-Term Anti-Oxidation Stabilized Highly Crosslinked UHMWPE Used in Knee and Hip Arthroplasty. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

MacDonald DW, Mont MA, Hozack W, Sharkey P, Malkani A, Kurtz SM. Reasons for Revision, Surface Damage, and In Vivo Oxidation for Retrieved Sequentially Annealed HXLPE in Total Knee Arthroplasty.

61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Day JS, MacDonald DW, Abboud JA, Williams GR, Rimnac CM, Kraay MJ, McCloskey R, Kurtz SM. Mechanically Assisted Crevice Corrosion Damage in Total Shoulder Arthroplasty is Comparable to Total Hip Arthroplasty. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Arnholt C, Kocagoz S, MacDonald DW, Gilbert JL, Malkani A, Klein GR, Rimnac CM, Kurtz SM. Corrosion and Damage Mechanisms in Retrieved Long-Term TKA Femoral Components. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Kocagoz SB, Underwood RJ, MacDonald DW, Gilbert JL, Rimnac CM, Kurtz SM. Metal Release in Ceramic and CoCr Heads at the Modular Junction: a Matched Cohort Retrieval Study. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Kocagoz SB, Underwood RJ, MacDonald DW, Baykal D, Day JS, Kurtz SM. Validation Study for a Quantitative Method to Measure the Volumetric Material Loss from Taper Surfaces. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Kocagoz SB, Ouellette ES, Mali SA, Gilbert JL, Kurtz SM. Investigation Of Fretting-corrosion Behavior Of Peek-metal Interfaces And Comparison With Fretting-Corrosion of Metal-metal Interfaces. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Fredette EK, MacDonald DW, Underwood RJ, Kurtz SM. Metal Transfer on Ceramic and Metal Heads: a Retrieval Study. 61st Annual Meeting of the Orthopaedic Research Society. Las Vegas, NV, March 28th - 31st, 2015.

Kurtz SM, MacDonald DW, Gilbert JL, Mont MA, Klein GR, Chen A, Kraay M, Hamlin B, Rimnac CM. Is Taper Fretting Corrosion a Threat to the Clinical Performance of Large-Diameter Hips with HXLPE Bearings? Symposium on Modularity and Tapers in Total Joint Replacement Devices. ASTM International, New Orleans, LA, November 10th, 2014.

Day JS, MacDonald DW, Abboud JA, Williams GR, Rimnac CM, Kraay MJ, McCloskey R, Arnholt CM, Kurtz SM. Mechanically Assisted Crevice Corrosion Damage in Total Shoulder Arthroplasty is Comparable to Total Hip Arthroplasty. Symposium on Modularity and Tapers in Total Joint Replacement Devices. ASTM International, New Orleans, LA, November 10th, 2014.

Arnholt CM, Underwood RJ, MacDonald DW, Higgs GB, Chen A, Klein GR, Hamlin B, Lee GC, Mont MA, Cates H, Malkani A, Rimnac CM, Kurtz SM. Micro-grooved Surface Topography Does Not Influence Fretting Corrosion of Tapers in THA: Classification and Retrieval Analysis. Symposium on Modularity and Tapers in Total Joint Replacement Devices. ASTM International, New Orleans, LA, November 10th, 2014.

Higgs GB, MacDonald DW, Mihalko WM, Siskey RL, Gilbert JL, Rimnac CM, Kurtz SM. A Pilot Study Characterizing Taper Interface Integrity and Its Relationship with Taper Damage in Retrieved Femoral Components of Total Hip Replacement Devices. Symposium on Modularity and Tapers in Total Joint Replacement Devices. ASTM International, New Orleans, LA, November 10th, 2014.

MacDonald DW, Clarkin-Wright G, Parvizi J, Lee GC, Klein GR, Rimnac CM, Gilbert JL, Kurtz SM. Titanium Alloy Sleeves Do Not Prevent Fretting Corrosion in Modular THA. Paper #1949 24th Annual Meeting of the American Association of Hip and Knee Surgeons. Dallas, TX, November 6th - 9th, 2014.

Carreon LY, Ong KL, Lau E, Kurtz SM, Glassman SD. Risk of osteoporotic fracture after steroid injections in Medicare patients. Paper No. 84, North American Spine Society 29th Annual Meeting, San Francisco, CA, November 12-15, 2014.

Ong KL, Lau E, Kurtz SM, Hansen E, Lonner J. Short-term complications and revision following unicondylar knee arthroplasty. Poster No. 54, 24th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 6-9, 2014.

MacDonald DW, Kurtz SM, Kocagoz SB, Hanzlik J, Underwood RJ, Gilbert JL, Lee GC, Mont MA, Kraay MJ, Klein GR, Parvizi J, Day JS, Rimnac CM. Does Taper Angle Clearance Influence the Fretting Corrosion Behavior of Modular THA Components? A Matched Cohort Study. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24-27 Sep, 2014.

MacDonald DW, Wright GC, Parvizi J, Lee GC, Klein GR, Rimnac CM, Gilbert JL, Kurtz SM. Titanium Alloy Sleeves Do Not Prevent Fretting Corrosion in Modular THA. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

Kocagoz SB, Arnholt CM, Baykal D, MacDonald DW, Day JS, Kurtz SM. Calculation of Volumetric Material Loss From Taper-Trunnion Junctions: Development and Validation of a Quantitative Method. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

MacDonald DW, Baykal D, Underwood RJ, Malkani AL, Parvizi J, Kurtz SM. The Effect of in Vivo Oxidation on Clinical vs. in Vitro Wear Rates in Retrieved 1st Generation Annealed Highly Crosslinked UHMWPE. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

Arnholt CM, Kocagoz SB, MacDonald DW, Gilbert JL, Parvizi J, Malkani AL, Klein GR, Kraay MJ, Rimnac CM, Kurtz SM. Corrosion and Damage Mechanisms in Retrieved Long-Term TKA Femoral Components. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

Day JS, MacDonald DW, Arnholt CM, Williams G, Getz C, Kraay MJ, Rimnac CM, Kurtz SM. Taper Corrosion in Retrieved Total Shoulder Replacement. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

Day JS, McCloskey R, Rimnac CM, Kraay MJ, Williams G, Abboud J, Kurtz SM. Analysis of Retrieved Reverse Total Shoulder Arthroplasty. 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

Hanzlik JA, Day JS, Levine HB, Klein GR, Hartzband M, Parvizi J, Kraay MJ, Rimnac CM, Kurtz SM. What Implant Factors Affect Bone Ingrowth in Retrieved Porous Tantalum Hip Implants? 27th Annual Congress of the International Society for Technology in Arthroplasty, Kyoto, Japan, 24 - 27 Sep, 2014.

MacDonald DW, Mont MA, Parvizi J, Malkani A, Hozack W, and Kurtz SM. Retrieval Analysis of Sequentially Annealed Highly Cross-Linked Polyethylene Used in THA. 1st Annual Pan Pacific Orthopaedic Congress, International Congress for Joint Reconstruction, Kona, Hawaii, USA, July 16 - 19, 2014.

Arnholt CM, Kocagoz SB, MacDonald DW, Gilbert JL, Parvizi J, Malkani A, Klein GR, Rimnac CM, Kurtz SM. Corrosion and Damage Mechanisms in Retrieved Long-Term TKA Femoral Components. 1st Annual Pan Pacific Orthopaedic Congress, International Congress for Joint Reconstruction, Kona, Hawaii, USA, July 16 - 19, 2014.

Kocagoz SB, Underwood RJ, MacDonald DW, Day JS, Kurtz SM. Development and Validation of a Quantitative Method to Calculate the Volume of Material Loss from the Taper-Trunion Junction. 1st Annual Pan Pacific Orthopaedic Congress, International Congress for Joint Reconstruction, Kona, Hawaii, USA, July 16 - 19, 2014.

Kurtz SM, MacDonald DW, Kocagoz SB, Hanzlik JA, Underwood RJ, Gilbert JL, Lee G, Mont MA, Kraay MJ, Klein GR, Parvizi J, Day JS, Rimnac CM. What Factors Influence Fretting Corrosion in Modular THA? A Matched Cohort Study. 1st Annual Pan Pacific Orthopaedic Congress, International Congress for Joint Reconstruction, Kona, Hawaii, USA, July 16 - 19, 2014.

Bozic K, Kamath A, Lau E, Ong K, Kurtz S, Chan V, Vail T, Berry D, Rubash H. The epidemiology of revision total knee arthroplasty in the United States. Paper No. 330, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Bozic K, Lau E, Ong K, Kamath A, Chan V, Vail T, Kurtz S, Rubash H, Berry D. Quantifying the burden of periprosthetic joint infection in revision total hip and total knee arthroplasty Paper No. 432, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Ong KL, Lotke PA, Lau E, Manley MT, Kurtz SM. Prevalence and costs of rehabilitation and physical therapy after primary TJA. Paper No. 395, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Arnholt C, MacDonald DW, Tohfafarosh M, Gilbert JL, Klein GR, Mont MA, Parvizi J, Rimnac CM, Kurtz SM. Mechanically Assisted Taper Corrosion in Modular TKA. Paper No 318, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Day JS, MacDonald DW, Arnholt C, Williams GR, Getz CL, Kraay MJ, Rimnac CM, Kurtz SM. What Biomechanical and Patient Factors Influence Fretting Corrosion in Total Shoulder Replacement? Paper 624, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Bozic K, Kamath A, Lau E, Ong K, Kurtz S, Chan V, Rubash H, Berry D, Vail T. Trends in THA bearing couple usage in the United States. Poster No. 92, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Kocagoz SB, Underwood RJ, MacDonald DW, Day JS, and Kurtz SM. What Is the Clinical Relevance of Visual Inspection of the Head / Stem Taper Junctions in Large Metal-on-Metal Hips? Poster No P067, 81st Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 11-15, 2014.

Ong K, Kurtz SM, Lau E, Parvizi J, Mont MA, Manley MT. Migratory patterns of primary total hip and knee patients influence hospital utilization. Poster No. 951, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Arnholt C, MacDonald DW, Tohfafarosh M, Gilbert JL, Rimnac CM, Klein GR, Mont MA, Parvizi J, Cates HE, Lee GC, Malkani A, Kraay MJ, Kurtz SM. Mechanically Assisted Taper Corrosion in Modular TKA. Poster No 849, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Day JS, MacDonald DW, Arnholt C, Williams GR, Getz CL, Kraay MJ, Rimnac CM, Kurtz SM. What Biomechanical and Patient Factors Influence Fretting Corrosion in Total Shoulder Replacement? Poster No 990, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Hanzlik JA, Day JS, Klein GR, Levine HB, Hartzband MA, Parvizi J, Kraay MJ, Rimnac CM, Kurtz SM. Analysis of Bone Ingrowth in Retrieved Porous Tantalum Tibial Trays. Poster No 961, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Kocagoz SB, Underwood RJ, MacDonald DW, Gilbert JL, Day JS, Kurtz SM. Quantitative Taper Angle Measurement Method for Retrieved Femoral Heads and Stems. Poster No 1800, 60th Annual Meeting of

the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Kurtz SM, Zielinska O, MacDonald DW, Parvizi J, Mont MA, Klein GR, Kraay MJ, Stulberg B, Lee GC, Malkani A, Rimnac CM. Oxidation and Rim Damage of Sequentially Annealed HXLPE in Total Hip Arthroplasty. Poster No 984, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

MacDonald DW, Baykal D, Underwood RJ, Kurtz SM. Assessment of Tribological Properties of Retrieved 1st Generation Annealed Highly Crosslinked UHMWPE Using Multidirectional Pin-on-Disk Testing. Poster No 939, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Tohfafarosh M, Baykal D, Mansmann K, Kurtz SM. Finite Element Material Modeling and Evaluation of Sterilization Effects on a Hydrogel. Poster No 306, 60th Annual Meeting of the Orthopaedic Research Society, New Orleans, LA, March 15-18, 2014.

Arnholt C, MacDonald DW, Tohfafarosh M, Gilbert JL, Rimnac CM, and Kurtz SM. Mechanically assisted taper corrosion in TKA. Paper No. 34. 23rd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 8-10, 2013.

Ong KL, Lotke PA, Lau E, Manley MT, and Kurtz SM. Prevalence and costs of rehabilitation and physical therapy after primary total joint arthroplasty. Poster No. 148. 23rd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 8-10, 2013.

Bozic KJ, Lau E, Ong K, Chiu V, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Risk factors for early revision following primary total knee arthroplasty in Medicare patients. Poster No. 204, 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 19-23, 2013.

Bozic KJ, Lau E, Ong K, Chiu V, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Risk factors for early revision following primary total hip arthroplasty in Medicare patients. Poster No. 72, 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 19-23, 2013.

Lovald ST, Ong K, Lau E, Schmier JK, Bozic KJ, Kurtz SM. Mortality, cost and downstream disease of total hip arthroplasty patients in the Medicare population. Paper No. 779, 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 19-23, 2013.

Edidin AA, Ong K, Lau E, Kurtz SM. Morbidity and mortality after vertebral augmentation and non-operative management of vertebral fractures. Paper No. 448, 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 19-23, 2013.

Kurtz SM, Ong K, Lau E, Watson H, Bozic KJ. Impact of the economic downturn on TJR demand in the U.S.: updated projections for TJR utilization through 2020. Poster No. 104, 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 19-23, 2013.

Ong K, Watson H, Manley MT, Kurtz SM. Comparison of infection, revision and surgical interventions between unicondylar and total knee arthroplasty. Poster No. 169, 80th Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 19-23, 2013.

Lovald S, Ong K, Lau E, Schmier J, Bozic K, Kurtz S. A Medicare analysis of mortality, disease and healthcare spending related to hip osteoarthritis. Poster No. 992, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

Kurtz SM, Walkenhorst R, Hufen J, Siskey RL. Baseline properties and wear resistance of Vitamin E containing ultra-high molecular weight polyethylene grades. Poster No. 1235A, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

Kurtz SM, MacDonald D, Kocagoz S, Tohfafarosh M, Parvizi P, Mont M, Malkani A. Oxidative and wear properties of sequentially annealed highly crosslinked polyethylene used in total knee arthroplasty, Poster No. 1715, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

G. B. Higgs, J. Hanzlik, D. MacDonald, G. Klein, J. Parvizi, M. A. Mont, M. Kraay, C. M. Rimnac, S. M. Kurtz. Does Fretting and Corrosion Occur at Modular Interfaces other than the Head-Stem Junction in Metal-on-Metal Total Hip Arthroplasty Devices? Poster No. 1759, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

R. J. Underwood, D. MacDonald, G. Higgs, R. L. Siskey, J. Day, S. M. Kurtz. Tribocorrosion in Taper Junctions: Measurements and Observations from Explanted MoM Hips. Poster No. 1763, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

S. M. Kurtz, D. MacDonald, G. B. Higgs, J. Gilbert, J. Parvizi, G. Klein, M. Mont, A. Marshall, M. Kraay, B. Stulberg, H. Cates, A. Malkani, C. M. Rimnac. Are 36+ MM Diameter HXLPE Bearings at Risk of Increased Wear from Modular Taper Corrosion with Ceramic and CoCr Heads? Poster No. 1768, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

S. M. Kurtz, D. MacDonald, S. Kocagoz, M. Tohfafarosh, J. Parvizi, M. Mont, A. Malkani. Retrieval Analysis of Sequentially Annealed Highly Crosslinked Polyethylene Used in Total Hip Arthroplasty. Poster No. 1778, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

R. L. Siskey, S. M. Kurtz, M. Kyomoto, U. Masaru, J. Weisenburger, H. Haider. In vitro Wear Performance of MPC-grafted UHMWPE for Total Hip Replacement. Poster No. 1785, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

R. J. Underwood, D. MacDonald, G. Higgs, J. Day, R. L. Siskey, S. M. Kurtz. Does Visual Inspection of the Taper Head / Stem Junctions in Metal-on-Metal Hips Accurately Characterize the Corrosion and Wear? Poster No. 1797, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

D. MacDonald, D. Baykal, S. Kocagoz, M. Tohfafarosh, S. M. Kurtz. Can Pin-on-Disk Testing Be Used to Assess the Wear Performance of Retrieved UHMWPE Liners? Poster No. 1817, 59th Annual Meeting of the Orthopaedic Research Society, San Antonio, TX, January 26-29, 2013.

Bozic K, Lau E, Ong K, Chiu V, Kurtz S, Vail TP, Rubash HE, Berry DJ. Risk factors for early revision following primary TKA in Medicare patients. Paper No. 2, 22nd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2012.

Bozic K, Lau E, Ong K, Chiu V, Kurtz S, Vail TP, Rubash HE, Berry DJ. An electronic risk calculator for early revision in Medicare THA patients. Poster No. 71, 22nd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2012.

Ong K, Lau E, Kurtz S. Risk of complications, revision, and cancer for metal-on-metal patients in the Medicare Population. Poster No. 41, 22nd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2012.

Bozic K, Lau E, Ong K, Chiu V, Kurtz S, Vail TP, Rubash HE, Berry DJ. Risk factors for early revision following primary THA in Medicare patients. Paper No. 51, 22nd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2012.

Bozic K, Lau E, Ong K, Chiu V, Kurtz S, Vail TP, Rubash HE, Berry DJ. An electronic risk calculator for

early revision in Medicare TKA patients. Poster No. 61, 22nd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2012.

Higgs G, Kurtz SM, Hanzlik JA, MacDonald DW, Klein G, Parvizi J, Mont M, Kraay M, Martell J, Gilbert J, Rinnac CM. Is increased modularity associated with increased wear debris in metal-on-metal total hip arthroplasty devices? James A. Rand Award, 22nd Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 1-3, 2012.

Ong KL, Lau E, Kemner JE, Kurtz SM. Comparative cost between vertebroplasty and kyphoplasty for the treatment of vertebral compression fractures. Poster No. P6, North American Spine Society 27th Annual Meeting, Dallas, TX, October 24-27, 2012.

Ong KL, Edidin A, Lau E, Kurtz SM. Mortality and morbidity for operated and nonoperated vertebral compression fracture patients in the Medicare population. Paper No. 154, North American Spine Society 27th Annual Meeting, Dallas, TX, October 24-27, 2012.

Ong KL, Edidin A, Lau E, Schmier J, Kemner JE, Kurtz SM. Cost-effectiveness analysis of treatments for vertebral compression fractures. Paper No. 27, North American Spine Society 27th Annual Meeting, Dallas, TX, October 24-27, 2012.

Kurtz SM, MacDonald D, Parvizi J; Klein GR; Lee GC; Marshall A; Mont M; Kraay K; Stulberg B, Malkani A, Rinnac R. Wear, oxidation, and mechanical properties of retrieved Crossfire and X3 HXLPE liners in THA. 25th Annual Congress of the International Society for Technology in Arthroplasty, Sydney, Australia, October 3-6, 2012.

Higgs G, Kurtz SM, Hanzlik JA, MacDonald DW, Kane WM, Day JS, Klein G, Parvizi J, Mont M, Kraay M, Martell J, Gilbert J, Rinnac CM. Retrieval analysis of metal-on-metal total hip prostheses: Characterizing fretting and corrosion at modular interfaces. 25th Annual Congress of the International Society for Technology in Arthroplasty, Sydney, Australia, October 3-6, 2012.

Kurtz SM, MacDonald D, Parvizi J; Klein GR; Lee GC; Marshall A; Mont M; Kraay K; Stulberg B, Malkani A, Rinnac R. Surface damage and oxidative properties of sequentially annealed highly crosslinked polyethylene in total knee arthroplasty. 25th Annual Congress of the International Society for Technology in Arthroplasty, Sydney, Australia, October 3-6, 2012.

Ong KL, Lau E, Kemner JE, Kurtz SM. Comparative cost between vertebroplasty and kyphoplasty for the treatment of vertebral compression fractures. Poster No. PMD22, 17th Annual International Meeting of the International Society for Pharmacoeconomics and Outcomes Research, Washington, DC, June 2-6, 2012.

Kurtz S, MacDonald D, Parvizi J, Klein G, Hartzband M, Lee GC, Marshall A, Mont M, Levine H, Kraay M, Stulberg M, Rinnac C. Wear, oxidative stability, and reasons for revision of highly crosslinked polyethylenes in THA. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Higgs G, Kurtz SM, Berven S, Isaza J, Lanman T, MacDonald D, Jaekel D, Penmatsa M, Ho C, Steinbeck M. Characterization of in vivo change and histological response of retrieved PEEK rod systems for posterior lumbar stabilization and fusion. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Ho CM, MacDonald D, Penmatsa MK, Higgs G, Isaza J, Kurtz SM, Steinbeck M. Histological and retrieval analysis of PEEK spherical nucleus pulposus replacements, 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

MacDonald D, Jaekel D, Klein G, Day J, Levine H, Parvizi J, Kurtz S. Performance of dynamic knee antibiotic cement spacers in vivo. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Jaekel D, Davidson H, Hickok N, Kurtz SM. Bacterial colonization of silver composite PEEK materials. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Day J, Hanzlik J, Klein G, Levine H, Hartzband M, Parvizi J, Kraay M, Rimnac C, Kurtz S. Revision reasons and bone ingrowth in retrieved porous tantalum acetabular shells and femoral stems. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

MacDonald D, Higgs G, Parvizi J, Klein G, Hartzband M, Lee GC, Levine H, Kraay M, Rimnac C, Kurtz S. Oxidative stability, reasons for revision, and damage mechanisms of remelted highly crosslinked polyethylenes in TKA. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Kurtz SM, MacDonald D, Parvizi J, Klein G, Hartzband M, Lee GC, Marshall A, Mont M, Levine H, Kraay M, Stulberg B, Rimnac C. The impact of femoral head diameter and ceramic bearing surfaces on the wear of highly crosslinked polyethylenes in THA. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Jarman-Smith M, Brady M, Jaekel D, Kurtz SM. Characterization of an interconnected porous PEEK biomaterial with porosity suitable for osseointegration. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Conrad TL, Jaekel DJ, Kurtz SM, Roeder RK. Effects of the mold temperature on the mechanical properties and crystallinity of hydroxyapatite whisker reinforced PEEK scaffolds. 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Hanzlik J, Day J, Klein G, Levine H, Hartzband M, Parvizi J, Kraay M, Rimnac C, Kurtz S. Revision reasons and bone ingrowth in retrieved porous tantalum tibial trays and patellas, 9th World Biomaterials Congress, Chengdu, China, June 1-5, 2012.

Edidin AA, Ong KL, Lau E, Schmier JK, Kemner JE, Kurtz SM. Cost-benefit analysis of treatments for vertebral compression fractures. Paper No. O222, SpineWeek 2012, Amsterdam, Netherlands, May 28-June 1, 2012.

Kurtz SM, Ong KL, Lau E, Greenwald AS, Bozic K. Prevalence of metal-on-metal bearings in the United States. Talk 1, Symposium on Metal-on-Metal Total Hip Replacement Devices, Phoenix, AZ, May 8, 2012.

Ong K, Lau E, Kurtz SM. Risk of complications, revision, and cancer for metal-on-metal patients in the Medicare population. Talk 6, Symposium on Metal-on-Metal Total Hip Replacement Devices, Phoenix, AZ, May 8, 2012.

Higgs G, Hanzlik JA, MacDonald DW, Kane WM, Day JS, Klein G, Parvizi J, Mont M, Kurtz SM. Fretting and corrosion at the taper connections of retrieved modular components from metal-on-metal total hip arthroplasty. Talk 13, Symposium on Metal-on-Metal Total Hip Replacement Devices, Phoenix, AZ, May 8, 2012.

Edidin AA, Ong KL, Lau E, Schmier JK, Kemner JE, Kurtz SM. Distinguished abstract: Cost-benefit analysis of treatments for vertebral compression fractures. Paper No. 6, Society of Interventional Radiology Annual Scientific Meeting, San Francisco, March 24-29, 2012.

Kurtz SM, Lau E, Watson H, Schmier J, Parvizi J. Economic burden of periprosthetic joint infection in the United States. Paper No. 212, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Kurtz SM, MacDonald D, Parvizi J, Klein G, Marshall A, Mont MA, Kraay M, Stulberg B, Rimnac CM.

Oxidative and mechanical properties of highly crosslinked polyethylene in total hip arthroplasty. Paper No. 306, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

MacDonald D, Kurtz SM, Parvizi J, Klein G, Marshall A, Johnson AJ, Kraay M, Stulberg B, Rimnac CM. Retrieval analysis on the effects of head size on performance of crosslinked polyethylenes for total hip replacement. Paper No. 355, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Lovald ST, Malkani A, Lau E, Ong K, Kurtz SM, Schmier JK, Manley M. Outpatient total knee arthroplasty: A cost and outcomes analysis. Paper No. 411, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Bozic KJ, Lau E, Ong K, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Identifying the high risk total knee arthroplasty patient. Paper No. 490, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Bozic KJ, Lau E, Ong K, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Identifying the high risk total hip arthroplasty patient. Paper No. 570, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Bozic KJ, Lau E, Ong K, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Trends in total hip arthroplasty bearing surface utilization in Medicare patients. Poster No. 100, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

MacDonald D, Higgs G, Parvizi J, Klein G, Hartzband M, Levine H, Kraay MJ, Rimnac C, Kurtz SM. Surface damage and oxidative properties of remelted highly crosslinked polyethylenes in total knee arthroplasty. Poster No. 143, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Lovald ST, Lau E, Ong K, Kurtz SM, Schmier JK, Parvizi J, Bozic KJ. Cost and disease outcomes of total knee arthroplasty patients in the Medicare population. Poster 149, 79th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 7-11, 2012.

Day JS, MacDonald DW, Ramsey, ML, Morrey BF, Connor PM, Kurtz, SM. Quantitative UHMWPE Wear Maps from Retrieved Total Elbow Arthroplasty. Poster No. 1246, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Jaekel DJ, Davidson HM, Hickok NJ, Kurtz SM. Measuring the Bacterial Adherence to Silver Composite PEEK Materials. Poster No. 912, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Jaekel DJ, Klein GR, Day JS, Levine HB, Parvizi J, Austin M, Kurtz SM. Clinical Performance of Retrieved Dynamic and Static Knee Antibiotic Cement Spacers. Poster No. 915, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Higgs GB, MacDonald, DM, Jaekel DJ, Penmatsa MK, Ho CM, Lanman TH, Berven SH, Isaza

JE, Steinbeck MJ, Kurtz SM. Retrieval Analysis of PEEK Rods for Posterior Lumbar Stabilization and Fusion. Poster No. 1117, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Ho CM, Penmatsa MK, MacDonald DW, Higgs GB, Isaza J, Kurtz SM, Steinbeck MJ. Histology of Periprosthetic Tissues and Analysis of Retrieved PEEK Spherical Nucleus Pulposus Replacements. Poster No. 1118, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA,

February 4-7, 2012.

MacDonald DW, Higgs G, Parvizi J, Klein G, Hartzband M, Levine H, Kraay M, Rimnac C, Kurtz SM. Material and Clinical Performance of Remelted Highly Crosslinked Polyethylene Used in Total Knee Arthroplasty. Poster No. 1999, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Kurtz SM, MacDonald DW, Parvizi J, Klein G, Hartzband M, Lee G, Marshall A, Mont M, Levine H, Kraay M, Stulberg B, Rimnac C. Do Large Diameter Femoral Heads and Ceramic Bearing Surfaces Impact the Revision and Wear of HXLPE? Poster No. 2022, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Kurtz SM, MacDonald DW, Parvizi J, Klein G, Hartzband M, Lee G, Marshall A, Mont M, Levine H, Kraay M, Stulberg B, Rimnac C. Material Performance and Reasons for Revision of 1st and 2nd Generation Highly Crosslinked Polyethylenes Used in Total Hip Arthroplasty. Poster No. 2024, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Baykal D, Day JS, Jaekel DJ, Katta J, Mansmann K, Kurtz SM. A Novel Method to quantify Wear of Hydrogels using Submerged Measurements. Poster No. 1729, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Baykal D, Day JS, Jaekel DJ, Katta J, Mansmann K, Kurtz SM. The Evaluation of Tribological

Properties of CyborGel for Replacing Articular Cartilage. Poster No. 2072, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Hanzlik JA, Day JS, Klein GR, Levine HB, Hartzband MA, Parvizi J, Kraay MJ, Rimnac CM, Kurtz SM. Revision Reasons and Bone Ingrowth in Retrieved Porous Tantalum Tibial Trays and Patellas. Poster No. 521, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Day JS, Hanzlik JA, Klein GR, Levine HB, Hartzband MA, Parvizi J, Kraay MJ, Rimnac CM, Kurtz SM. Revision Reasons and Bone Ingrowth in Retrieved Porous Tantalum Acetabular Shells and Femoral Stems. Poster No. 976, 58th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, February 4-7, 2012.

Kurtz SM, Lau E, Watson H, Schmier J, Parvizi J. Economic burden of periprosthetic joint infection in the United States. Paper No. 20, 21st Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 4-6, 2011.

MacDonald D, Higgs G, Parvizi J, Klein G, Hartzband M, Levine H, Kraay MJ, Rimnac C, Kurtz SM. Oxidative properties of remelted highly crosslinked polyethylenes in total knee arthroplasty. Paper No. 34, 21st Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 4-6, 2011.

Bozic KJ, Lau E, Ong K, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Comparative effectiveness of metal-on-metal and metal-on-polyethylene bearings in Medicare THA patients. Paper No. 9, 21st Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 4-6, 2011.

Kurtz SM, MacDonald D, Parvizi J, Klein G, Marshall A, Mont MA, Kraay M, Stulberg B, Rimnac CM. Mechanical, wear, and oxidative properties of 1st and 2nd generation highly crosslinked polyethylene in total hip arthroplasty. Poster No. 23, 21st Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 4-6, 2011.

Edidin AA, Ong KL, Lau E, Wang N, Kurtz SM. Life expectancy following diagnosis of a vertebral compression fracture. North American Spine Society 26th Annual Meeting, Chicago, IL, November 2-5,

2011.

Zampini JM, Ong KL, Lau E, Edidin AA, Kurtz SM. Hospital outcomes of VCF treatment with kyphoplasty and vertebroplasty in the United States. North American Spine Society 26th Annual Meeting, Chicago, IL, November 2-5, 2011.

Kurtz SM, Lau E, Ong K, Carreon L, Glassman S. Infection risk for primary and revision instrumented lumbar spine fusion in the Medicare population. North American Spine Society 26th Annual Meeting, Chicago, IL, November 2-5, 2011.

Ong K, Rundell S, Liepins I, Markel D, Kurtz S. Biomechanical modeling of acetabular component polyethylene stresses, fracture risk, and wear rate following press-fit implantation. FDA/NHLBI/NSF Workshop on Computer Methods for Medical Devices, Silver Spring, MD, September 7-9, 2011.

Edidin AA, Ong KL, Lau E, Kurtz SM. Distinguished abstract: Mortality risk for operated and non-operated vertebral fracture patients in the U.S. Medicare population. Society of Interventional Radiology 36th Annual Scientific Meeting, Chicago, IL, March 26-31, 2011.

Edidin AA, Ong KL, Lau E, Kurtz SM. Mortality risk for operated and non-operated vertebral fracture patients in the U.S. Medicare population. Paper No. OC40, ECCEO11-IOF European Congress on Osteoporosis and Osteoarthritis, Valencia, Spain, March 23-26, 2011.

Malkani A, Carroll C, Roberts C, Seligson D, Lau E, Kurtz SM, Ong K. Complication risk following treatment of acetabular fractures in the Medicare population. Paper No. 212, 78th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 15-19, 2011.

Bozic KJ, Ong K, Lau E, Kurtz SM, Vail TP, Rubash HE, Berry DJ. Risk factors for periprosthetic joint infection and peri-operative mortality following total hip arthroplasty in Medicare patients. Paper No. 480, 78th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 15-19, 2011.

Curtin B, Malkani A, Lau E, Kurtz SM, Ong K. Revision after total knee arthroplasty and unicompartmental knee arthroplasty in Medicare population. Poster No. 114, 78th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 15-19, 2011.

Punt I, Baxter R, van Ooij A, Willems P, van Rhijn L, Kurtz SM, Steinbeck MJ. Submicron-sized UHMWPE wear particle analysis from revised SB Charité III total disc replacements. Poster 0381, Transactions of the Orthopaedic Research Society, Vol. 36, Long Beach, CA, January 13-16, 2011.

MacDonald D, Hanzlik J, Day J, Heffernan J, Higgs G, Klein G, Kraay K, Rimnac CM, Parvizi J, Kurtz SM. Bone ongrowth in retrieved porous tantalum monoblock tibial plates. Poster 1036, Transactions of the Orthopaedic Research Society, Vol. 36, Long Beach, CA, January 13-16, 2011.

Bozic KJ, Ong K, Lau E, Kurtz S, Vail TP, Rubash HE, Berry DJ. Risk factors of periprosthetic joint infection and peri-operative mortality following total hip arthroplasty in Medicare patients. Paper No. 7, 20th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 5-7, 2010.

Bozic KJ, Ong K, Lau E, Kurtz S, Vail TP, Rubash HE, Berry DJ. Patient-related risk factors for periprosthetic joint infection and postoperative joint infection and postoperative mortality following total knee arthroplasty in Medicare patients. Poster, 20th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 5-7, 2010.

Malkani AL, Carroll C, Roberts CS, Seligson D, Lau E, Kurtz S, Ong K. Risk of complications following treatment of intertrochanteric hip fractures with IM nails and plate fixation in the Medicare population.

Paper No. 40, 26th Annual Meeting of the Orthopaedic Trauma Association, Baltimore, MD, October 13-16, 2010.

Malkani A, Carroll C, Roberts C, Seligson D, Lau E, Day J, Kurtz S, Ong K. Complication risk following treatment of intracapsular and extracapsular hip fractures in the Medicare population. Poster, 26th Annual Meeting of the Orthopaedic Trauma Association, Baltimore, MD, October 13-16, 2010.

Edidin AA, Ong KL, Lau E, Kurtz SM. Mortality risk for operated and non-operated vertebral fracture patients in the U.S. Medicare population. Paper No. 1207.1, Cardiovascular and Interventional Radiological Society of Europe, Valencia, Spain, October 2-6, 2010.

Punt IM, Willems PC, Kurtz SM, van Rhijn LW, van Ooij A. Salvage strategies of the CHARITÉ lumbar disc prosthesis: Clinical results after a follow-up of 3 years. Paper 13, Proceedings, Eurospine 2010, Vienna, Austria, September 15-17, 2010.

Edidin A, Ong K, Kurtz S. Mortality risk for operated and non-operated vertebral fracture patients in the U.S. Medicare population. Paper 31, Proceedings, Eurospine 2010, Vienna, Austria, September 15-17, 2010.

Edidin AA, Ong KL, Lau E, Kurtz SM. Mortality risk for operated and non-operated vertebral fracture patients in the U.S. Medicare population. Paper No. OC23, Joint Congress of the International Osteoporosis Foundation and the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis, Florence, Italy, May 5-8, 2010.

Kurtz SM, Medel F, Parvizi J, Austin MS, Klein G, Hartzband M, Stulberg B, Garino J, Kraay M, Rimnac CM. Wear and material performance of 1st generation highly crosslinked polyethylene implanted up to 10 years. Paper No. 110, 77th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 9-13, 2010.

Ong KL, Lau E, Villarraga ML, Glassman S, Kurtz SM. Evaluating on-label and off-label use of BMP in the U.S. using administrative data. Paper No. 19, 77th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 9-13, 2010.

Malkani A, Ong K, Lau E, Kurtz SM, Manley M. Early and late dislocation risk following primary hip arthroplasty in the Medicare population. Poster No. 48, 77th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, March 9-13, 2010.

Kurtz S, Röder C, Ong K, Lau E, Widmer M, Maravic M, Gomez-Barrena E, Pina F, Manno V, Geesink R. International survey of primary and revision total knee replacement. Paper 0214, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Siskey R, Day J, Kurtz S. Validation of a test method for evaluating the fatigue performance of PEEK spinal fusion rod systems. Paper 0274, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Kurtz S, Röder C, Ong K, Lau E, Widmer M, Maravic M, Gomez-Barrena E, Pina F, Manno V, Geesink R. International survey of primary and revision total hip replacement. Paper 0365, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

MacDonald D, Sharma P, Sakona A, Isaza J, Ooij A, Ross ERS, Regan J, Kurtz S. The effect of 2nd generation barrier packaging on polyethylene for total disc replacement. Poster 0427, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Ong K, Ianuzzi A, Lau E, Kurtz S, Ochoa J. Epidemiology and in-hospital complications associated with interspinous process decompression device procedures: The Initial U.S. experience using National

Administrative Data. Poster 0428, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Ong K, Villarraga M, Lau E, Carreon L, Kurtz S, Glassman S. Evaluating on-label and off-label use of BMP in the U.S. using administrative data. Poster 1406, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Punt IM, Willems PC, Kurtz SM, van Rhijn LW, van Ooij A. Salvage strategies of the CHARITÉ lumbar disc prosthesis: Clinical results after a follow-up of 3 years. Poster 1410, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Vicars R, Kurtz S, MacDonald D, Brown T, Tipper J, Fisher J, Ingham E, Hall R. Height loss comparison between ex-vivo and in-vitro TDR. Poster 1482, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Rundell S, Isaza J, Guillory S, Day J, Kurtz S. Posterior muscle activation in the lumbar spine engages facet contact and reduces shear forces in the intervertebral disc during simulated standing. Poster 1506, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Jaekel D, Davidson H, Hickok N, Kurtz S. Pilot antimicrobial studies of 1% nanosilver composite PEEK to reduce bacterial adherence. Poster 2146, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Jaekel D, MacDonald D, Kurtz S. validation of the small punch test for unfilled and radiopaque PEEK biomaterials. Poster 2281, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Baykal D, Siskey R, Kurtz S. Tribological studies of highly crosslinked and Vitamin-E blended UHMWPE. Poster 2297, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Sobieraj M, Murphy J, Brinkman J, Sirimamilla P, Kurtz S, Rimnac C. Notched fatigue of conventional and crosslinked UHMWPEs. Poster 2308, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

MacDonald D, Sharma P, Sakona A, Sharkey P, Austin M, Parvizi J, Zmistowski B, Kurtz S. In vivo oxidation and mechanical performance of conventional, EtO-sterilized UHMWPE tibial inserts. Poster 2311, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Baxter R, Jablonowski L, Day J, Ramsey M, Kurtz S, Steinbeck M. Evaluation of multimodal wear debris and inflammation in total elbow replacement revision tissue. Poster 2342, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

MacDonald D, Sakona A, Austin M, Kurtz S, Parvizi J. Comparison of first- and second-generation annealed polyethylenes for total hip arthroplasty. Poster 2351, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Bozic K, Ong K, Lau E, Kurtz S, Vail T, Rubash H, Berry D. The comparative effectiveness of total hip arthroplasty bearing surfaces in the Medicare population. Poster 2356, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Sakona A, MacDonald D, Poonam S, Medel F, Kurtz S. Retrieval analysis of historical zirconia femoral heads and contemporary alternatives: oxinium and biolox delta. Poster 2358A, Transactions of the Orthopaedic Research Society, Vol. 35, New Orleans, LA, March 6-9, 2010.

Bozic KJ, Ong K, Lau E, Kurtz S, Vail TP, Rubash HE, Berry DJ. The comparative effectiveness of total hip arthroplasty bearing surfaces in the Medicare population. Paper No. 1, 19th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 6-8, 2009.

Kurtz SM, Medel F, Parvizi J, Austin MS, Klein G, Hartzband M, Stulberg B, Garino J, Kraay M, Rimnac CM. Wear and material performance of 1st generation highly crosslinked polyethylene implanted up to 10 years. Paper No. 2, 19th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 6-8, 2009.

Malkani A, Ong K, Lau E, Kurtz SM, Manley M. Short-term dislocation risk following primary hip arthroplasty in the Medicare population. Lawrence D. Dorr Award Paper, 19th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 6-8, 2009.

Matar WY, Restrepo C, Parvizi J, Kurtz SM, Sharkey PF, Austin M, Hozack WJ. Revision hip arthroplasty for ceramic-on-ceramic squeaking hips does not compromise the results. Paper No. 22, 19th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 6-8, 2009.

Kurtz SM, Pavri BB, Ho RT, Lau E, Zhao K. Fourteen-year trends in pacemaker implantation in the United States. Paper No. AB20-3. Transactions of the 30th Annual Scientific Sessions of the Heart Rhythm Society, Boston, MA, May 13-16, 2009.

Ong K, Lau E, Suggs J, Kurtz SM, Manley M. Complication risk following revision hip and knee arthroplasty in the Medicare population. Paper No. 181. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Bozic K, Kurtz SM, Lau E, Ong K, Vail T, Berry D. The epidemiology of revision total hip arthroplasty in the United States. Paper No. 182. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Kurtz SM, Lau E, Ong K, Zhao K, Kelley M, Bozic K. National projections of younger patient demand for primary and revision joint replacement. Paper No. 183. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Ong K, Lau E, Mont M, Kurtz S, Manley M. Correlation of procedure time and surgeon volume with primary knee outcomes: A Medicare study. Paper No. 252. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Eddin A, Ong K, Lau E, Kurtz S. Mortality risk for operated and non-operated vertebral fracture patients in the Medicare population. Paper No. 312. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Bozic K, Kurtz SM, Lau E, Ong K, Vail T, Rubash H, Berry D. The epidemiology of THA bearing usage in the United States. Paper No. 616. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Bozic KJ, Kurtz SM, Lau E, Ong K, Vail TP, Rubash HE, Berry DJ. The epidemiology of revision total knee arthroplasty in the United States. Poster No. 116. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Medel FJ, Kurtz SM, Klein G, Levine H, Sharkey P, Austin M, Goldberg V, Kraay M, Rimnac C. Revisiting the clinical and wear performance of Poly Two tibial inserts after long-term implantation. Poster No. 189. 76th Annual Meeting of the American Academy of Orthopaedic Surgeons, Las Vegas, NV, February 25-28, 2009.

Medel F, Kurtz S, MacDonald D, Shah P, Hozack W, Sharkey P, Klein G, Hartzband M, Stulberg B,

Garino J, Kraay M, Rimnac C. First-generation highly crosslinked polyethylenes in THA: Clinical and material performance. Vol. 34, No. 0160. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Day J, Lau E, Ong K, Manley M, Kurtz S. Where is the baby boomer bulge? Projections for the incidence of hip fractures in the United States. Vol. 34., No. 0228. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Shkolnikov Y, Restrepo C, Parvizi J, Hozack W, Garino J, Suggs J, Kurtz S. Clinical validation of a squeakometer for characterization of acoustic emissions in arthroplasty patients. Vol. 34, No. 0343. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Johanson N, Kleinbart R, Cerynik D, Ong K, Lau E, Kurtz S. Temporal relationship between knee arthroscopy and arthroplasty: A quality measure for joint care? Vol. 34, No. 0367. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Murphy JE, Sobieraj MC, Brinkman JG, Kurtz SM, Rimnac, M. Notch effects under physiologically-relevant conditions of conventional and highly crosslinked UHMWPEs. Vol. 34, No. 0455. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Jaekel D, Medel F, Kurtz S. Validation of crystallinity measurements of medical grade PEEK using specular reflectance FTIR-microscopy. Vol. 34, No. 0465. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Sobieraj MC, Murphy JE, Brinkman, JG, Kurtz SM, Rimnac, CM. Notched tensile fatigue behavior of PEEK under physiologic environmental conditions. Vol. 34, No. 0466. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Kurtz S, Siskey R. Small punch testing of artificially aged gamma-sterilized polycarbonate urethane acetabular components. Vol. 34, No. 0471. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Edidin A, Ong K, Lau E, Kurtz S. Mortality risk for operated and non-operated vertebral fracture patients in the Medicare population. Vol. 34, No. 1800. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Day J, Baxter R, Shah P, Ramsey M, Morrey B, Steinbeck, M, Kurtz, S. Volumetric wear rates of polyethylene after semi-constrained total elbow arthroplasty. Vol. 34, No. 1878. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Day J, Lau E, Ong K, Williams Jr. G, Ramsey M, Kurtz S. Prevalence and projections for upper extremity arthroplasty in the United States. Vol. 34, No. 1927. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Ong K, Bozic K, Lau E, Vail T, Rubash H, Berry D, Kurtz S. Epidemiology of metal-on-metal total hip arthroplasty and hip resurfacing arthroplasty in the U.S. Vol. 34, No. 2017. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Day J, Ong K, Manley M, Kurtz S. A comparison of peri-prosthetic bone remodeling for extensively coated and proximally coated femoral stems. Vol. 34, No. 2247. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Medel F, Shah P, Kurtz S. Retrieval analysis of contemporary alternative femoral head materials: Oxinium and biolox delta. Vol. 34, No. 2300. Transactions of the 55th Annual Meeting of the Orthopaedic

Research Society, Las Vegas, NV, February 22-25, 2009.

Cohen A, Patel H, Medel F, Kurtz S. A standardized method for extraction of lipids and oxidation characterization of retrieved UHMWPE components. Vol. 34, No. 2308. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Doehring TC, Baxter RM, Kurtz SM, Steinbeck, MJ. In situ evaluation of sub-micron PE wear debris by enhanced polarized light image analysis. Vol. 34, No. 2312. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Baxter RM, Doehring TC, Jablonowski LJ, Kurtz SM, Steinbeck MJ. Histomorphologic characteristics of periprosthetic tissue from historical and crosslinked PE hip implants. Vol 34, No. 2326. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Medel F, Kurtz S, MacDonald D, Shah P, Patel H, Cohen A, Rimnac C. Correlation between in vivo oxidation and mechanical properties in contemporary polyethylene bearings. Vol. 34, No. 2327. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Haider H, Weisenburger J, Kurtz S, Rimnac C, Freedman J, Schroeder D, Garvin K. Highly crosslinked UHMWPE in TKA - Does Vitamin-E-stabilized polyethylene address our concerns? Vol. 34, No. 2328. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Kurtz S, Lau E, Ianuzzi A, Lanman T, Isaza J, Albert T. National revision burden for lumbar total disc replacement in the United States. Transactions Vol. 34. No. 2356. Vol. 34, No. 2356. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Bozic K, Kurtz S, Lau E, Ong K, Chiu V, Vail T, Rubash H, Berry D. The epidemiology of total hip arthroplasty bearing surface use in the United States. Vol. 34, No. 2451. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Ong K, Lau E, Suggs J, Kurtz S, Manley M. Relative risk of subsequent revision following revision total joint arthroplasty. Vol. 34, No. 2456. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Ong K, Lau E, Suggs J, Kurtz S, Manley M. Short-term complication risk following primary and revision total joint arthroplasty. Vol. 34, No. 2459. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Bozic K, Kurtz S, Lau E, Ong K, Vail T, Rubash H, Berry D. the epidemiology of total knee arthroplasty in the United States. Vol. 34, No. 2471. Transactions of the 55th Annual Meeting of the Orthopaedic Research Society, Las Vegas, NV, February 22-25, 2009.

Kurtz SM, Lau E, Ong K, Bozic K, Parvizi J, Berry D. Prosthetic joint infection risk following total hip and knee arthroplasty in the Medicare population. Paper No. 3, 18th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 7-9, 2008.

Bozic K, Kurtz SM, Lau E, Ong K, Vail T, Berry D. The epidemiology of revision total hip arthroplasty in the United States. Paper No. 30, 18th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 7-9, 2008.

Kurtz SM, Lau E, Ong K, Zhao K, Kelley M, Bozic K. Younger patient demand for primary and revision joint replacement: National projections from 2010 to 2030. Paper No. 31, 18th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 7-9, 2008.

Bozic K, Kurtz SM, Lau E, Ong K, Vail T, Rubash H, Berry D. Premium bearing surface usage in total hip arthroplasty. Paper No. 41. 18th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 7-9, 2008.

Ong K, Lau E, Suggs J, Kurtz SM, Manley M. Relative risk of complications following revision hip and knee arthroplasty in the Medicare population. Poster No. 281. 18th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 7-9, 2008.

Ong K, Rundell S, Liepins I, Laurent R, Markel D, Kurtz S. Biomechanical evaluation of acetabular component polyethylene stresses, fracture risk, and wear rate during press-fit implantation. Poster No. P10, 2nd Joint Meeting of the Bone Research Society and the British Orthopaedic Research Society, Manchester, UK, June 23-25, 2008.

Markel D, Day J, Siskey R, Liepins I, Kurtz S, Ong K. Deformation of metal-backed acetabular components and the impact of liner thickness in a cadaveric model. Poster No. P18, 2nd Joint Meeting of the Bone Research Society and the British Orthopaedic Research Society, Manchester, UK, June 23-25, 2008.

Baxter R, Freeman T, Kurtz SM, Steinbeck M. Quantitative analysis of innate and adaptive immune response in periprosthetic THR retrieval tissue. Session No. 81, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Medel F, Kurtz SM, Brenner E, Sharkey P, Purtill J, Parvizi J, Goldberg V, Kraay M, Klein G, Hartzband M, Levine H, Rimnac C. Do post-irradiation stabilized polyethylenes oxidize in vivo? FTIR analysis of historical, conventional and stabilized polyethylene components for TKA. Session No. 58, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Kurtz SM, Siskey R, Shah P. Validation of MicroCT Measurement of in vivo volumetric wear for retrieved PCU acetabular components. Poster No. P-Sat-O-757, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

MacDonald D, Kurtz S, Brenner E, Medel F, Hozack W, Purtill J, Parvizi J, Austin M, Goldberg V, Kraay M, Stulberg B, Rimnac C. Oxidative properties and clinical performance of first and second-generation highly crosslinked acetabular bearings. Poster No. P-Sat-I-590, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

MacDonald D, Kurtz S, Ianuzzi A, van Ooij A, Isaza J, Ross R. TDR oxidative properties following gamma sterilization in air and first-generation barrier packaging. Poster No. P-Sat-I-591, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Medel F, Kurtz SM, Brenner E, Reising K, Parvizi J, Sharkey P, Goldberg V, Kraay M, Rimnac C. Influence of the design on post wear performance in posterior-stabilized TKA. Poster No. P-Sat-K-678, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Kurtz SM, Siskey R, Wiperman B, Siebert W, Mai S. Wear mechanisms of human retrieved polycarbonate urethane acetabular components. Poster No. P-Sat-I-586, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Kurtz SM, Siskey R. Accelerated aging of gamma-sterilized polycarbonate urethane acetabular components. Poster No. P-Sat-I-587, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Punt I, van Ooij A, de Bruin T, Cleutjens J, Kurtz SM, van Rhijn L. Periprosthetic tissue reactions in

revised total disc arthroplasty. Poster No. P-Sat-A-008, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Sobieraj M, Kurtz SM, Rimnac C. Tensile Fracture Behavior of PEEK in the Presence of a Notch Riser. Poster No. P-Sat-A-013, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Baxter R, Steinbeck M, Tipper J, Rimnac C, Parvizi J, Marcolongo M, Kurtz SM. Evaluation of methods for optimized periprosthetic tissue digestion. Poster No. P-Sat-I-573, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Baxter R, Steinbeck M, Ianuzzi A, van Ooij A, Ross R, Isaza J, Kurtz SM. Polarized light analysis of polyethylene particle load in TDR and THR retrieval tissue. Poster No. P-Sat-A-001, Transactions of the 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 28-June 1, 2008.

Kurtz SM, Ianuzzi A, Siskey R, MacDonald D, Cohen A, Dooris A, Serhan H. Clinical validation of spine wear simulators with long-term TDR wear rates for a mobile bearing TDR. Paper No. C10, Transactions of Spineweek 2008, Geneva, Switzerland, May 26-31, 2008.

Kurtz SM, Ebert M, Siskey R, Ciccarelli L, Reitman M, Harper ML, Chan FW. Natural and accelerated aging of polyurethanes in the Bryan cervical disc. Poster No. P158, Transactions of Spineweek 2008, Geneva, Switzerland, May 26-31, 2008.

Siskey R, Kurtz SM, Ciccarelli L, Harper M, Chan F. A Validation of ISO-Standard Wear Testing Using Retrieved Metal-on-Metal Cervical Disc Replacements. Paper No. 30. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Kurtz S, MacDonald D, Ianuzzi A, van Ooij A, Isaza J, Ross R. TDR oxidative properties following gamma sterilization in air and first-generation barrier packaging. Paper No. 42. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Kurtz S, Baxter R, Steinbeck M, Ianuzzi A, van Ooij A, Isaza J, Ross R. Polyethylene particle load in TDR and THR retrieval tissue using polarized light microscopy. Paper No. 43. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Rundell S, Auerbach J, Balderston R, Kurtz S. Evaluating the influence of TDR positioning on subsidence and facet arthrosis. Paper No. 47. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Kurtz S, MacDonald D, Ianuzzi A. Does chronic rim impingement influence dome wear in mobile bearing TDR? Paper No. 57. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Rundell S, Guerin H, Auerbach J, Kurtz S. Nucleus pulposis replacement material stiffness properties affect vertebral body strains and remodeling response. Paper No. 67. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Guerin H, Heinly J, Auerbach J, Siskey R, Lonner B, Villarraga M, Kurtz S. Identifying appropriate interventional timepoints for nucleus pulposis replacements: Impact of degeneration dependent mechanical properties of the cartilaginous endplate. Paper No. 72. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Ianuzzi A, Kurtz S, van Ooij A, Bindal R, Ross R, Bohinski R, Kane W, Siskey R, Shah P, Villarraga M. In vivo deformation, surface damage, and biostability of polycarbonate urethane spacers from retrieved Dynesys systems. Paper No. 78. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL,

May 6-9, 2008.

Rundell S, Auerbach J, Balderston R, Kurtz S. Effects of TDR implantation and positioning on adjacent level facet forces and disc pressures. Poster No. 42. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Kurtz SM, Ebert M, Siskey R, Ciccarelli L, Reitman M, Harper ML, Chan FW. Natural and accelerated aging of polyurethanes in the Bryan cervical disc. Poster No. 118. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Siskey R, Villarraga M, Guerin H, Shah P, Kurtz S. Developing a surrogate annulus fibrosis model for nucleus pulposus replacement wear and fatigue characterization. Poster No. 136. 8th Annual Meeting of the Spine Arthroplasty Society, Miami Beach, FL, May 6-9, 2008.

Baxter R, Steinbeck M, Tipper J, Rimnac C, Parvizi J, Marcolongo M, Kurtz SM. Evaluation of methods for optimized periprosthetic tissue digestion. Paper No. 58. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Medel F, Kurtz SM, Brenner E, Sharkey P, Purtill J, Parvizi J, Goldberg V, Kraay M, Klein G, Hartzband M, Levine H, Rimnac C. In vivo oxidation and oxidation potential in gamma air, gamma inert and post-irradiation stabilized polyethylene components for TKA. Paper No. 191. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Manley M, Ong K, Lau E, Kurtz S. THA and TKA survivorship in the United States Medicare population: Effect of hospital and surgeon procedure volume. Paper No. 220. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Bozic K, Kurtz S, Lau E, Ong K, Vail T, Berry D. Revision total joint arthroplasty: Early insights into cause of failure, type of revision from newly implemented diagnosis and procedure codes. Paper No. 235. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Baxter R, Steinbeck M, Ianuzzi A, van Ooij A, Ross R, Isaza J, Kurtz SM. Periprosthetic polyethylene particle load of retrieved TDR tissue: Comparison with THR tissue. Short Talk Poster No. 389. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Baxter R, Freeman T, Kurtz SM, Steinbeck M. Immunohistochemical analysis of periprosthetic tissue from THR revision surgery. Poster No. 749. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Day J, Beredjikian P, Lau E, Ong K, Kurtz S. Trends in the incidence and treatment of wrist fractures in the Medicare population. Poster No. 1026. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Kurtz SM, MacDonald D, Ianuzzi A, van Ooij A, Isaza J, Ross ERS. In vivo oxidation and oxidation potential for polyethylene in total disc replacement following gamma sterilization in air and first-generation barrier packaging. Poster No. 1324. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Ianuzzi A, Kurtz S, van Ooij A, Bindal R, Ross R, Bohinski R, Kane W, Siskey R, Shah P, Villarraga M. In vivo deformation, surface damage, and biostability of polycarbonate urethane spacers from retrieved Dynesys systems. Poster No. 1325. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Rundell S, Auerbach J, Balderston R, Kurtz S. Total disc replacement positioning affects facet contact forces and vertebral body strains. Poster No. 1361. 54th Annual Meeting of the Orthopaedic Research

Society, San Francisco, CA, March 2-5, 2008.

Guerin H, Heinly J, Auerbach J, Siskey R, Lonner B, Villarraga M, Kurtz S. Human intervertebral disc cartilaginous endplate tensile mechanical properties are anisotropic and degeneration dependent. Poster No. 1444. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Sobieraj M, Kurtz SM, Rimnac C. Notch sensitivity behavior of PEEK in monotonic tension. Poster No. 1685. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Kurtz S, Lau E, Ong K, Zhao K, Kelly M, Bozic K. Future young patient demand for primary and revision joint replacement: National Projections from 2010 to 2030. Poster No. 1754. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Kurtz S, Ong K, Bartel D. Revisiting the effects of conformity, thickness, and material properties for contemporary polyethylene acetabular inserts. Poster No. 1765. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Markel D, Day J, Siskey R, Liepins I, Kurtz S, Ong K. Deformation of metal-backed acetabular components and the impact of liner thickness in a cadaveric model. Poster No. 1769. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Ong K, Day J, Geesink R, Manley M, Kurtz S. Biomechanical comparison of two proximally-coated femoral stems: Effects of stem length and distal finish. Poster No. 1824. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Ong K, Lau E, Manley M, Kurtz S. Association between procedure duration and THA and TKA survivorship in the United States Medicare population. Poster No. 1737. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Ong K, Rundell S, Liepins I, Laurent R, Markel D, Kurtz S. Biomechanical evaluation of acetabular component polyethylene stresses, fracture risk, and wear rate during press-fit implantation. Poster No. 1755. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Kurtz S, MacDonald D, Brenner E, Medel F, Hozack W, Purtill J, Parvizi J, Austin M, Goldberg V, Kraay M, Stulberg B, Rimnac C. In vivo oxidation, oxidation potential, and clinical performance of first and second-generation highly crosslinked acetabular bearings for THA. Poster No. 1790. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Siskey R, Villarraga M, Guerin H, Shah P, Kurtz S. Design and validation of a surrogate annulus fibrosus model for nucleus pulposus replacement wear and fatigue characterization. Poster No. 1924. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Siskey R, Kurtz SM, Ciccarelli L, Harper M, Chan F. Validation of ISO-standard wear testing with retrieved metal-on-metal cervical disc replacements. Poster No. 1927. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Medel F, Kurtz SM, Brenner E, Reising K, Parvizi J, Sharkey P, Goldberg V, Kraay M, Rimnac C. Post damage in three contemporary designs of posterior-stabilized knee components: Comparison to a historical gold standard. Poster No. 2001. 54th Annual Meeting of the Orthopaedic Research Society, San Francisco, CA, March 2-5, 2008.

Kurtz SM, Hozack W, Parvizi J, Purtill J, Sharkey P, MacDonald D, Kraay M, Goldberg V, Rimnac CM. Gamma inert sterilization: A solution to polyethylene oxidation? Paper No. 20. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Manley M, Ong K, Lau E, Kurtz SM. THA and TKA survivorship in the United States Medicare population: Effect of hospital and surgeon procedure volume. Paper No. 581. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Kurtz SM, Lau E, Manley M, Ong K. Association between procedure duration and THA and TKA survivorship in the United States Medicare population. Poster No. 66. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Kurtz SM, Parvizi J, Purtill J, Sharkey P, MacDonald D, Brenner E, Kraay M, Goldberg V, Rimnac CM. In vivo oxidation is a primary contributor to delamination in TKA. Poster No. 185. 75th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, March 5-9, 2008.

Ong K, Lau E, Manley M, Kurtz SM. Association between procedure duration and THA and TKA survivorship in the United States Medicare population. Paper No. 4. 17th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2007.

Manley M, Ong K, Lau E, Kurtz SM. THA and TKA survivorship in the United States Medicare population: Effect of hospital and surgeon procedure volume. Poster No. 181. 17th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 2-4, 2007.

Kurtz SM, De Bruin T, Cleutjens J, van Ooij A, Punt I, Van Rhijn L. Long-term periprosthetic tissue reactions to polyethylene wear debris in total disc arthroplasty. Paper #169. Proceedings, 22nd North American Spine Society, Austin, TX, October 23-27, 2007.

Bowden AE, Shkolnikov Y, MacDonald D, Kurtz SM. Automated MicroCT-based damage maps of explanted polymeric TDR components. Poster #100. Proceedings, 22nd North American Spine Society, Austin, TX, October 23-27, 2007.

Kurtz SM, MacDonald D, Ciccarelli L, van Ooij A, Isaza J, Ross R, Bowden A, Patwardhan A. Are one-sided wear patterns predictive of greater clinical wear in mobile bearing TDRs? Poster #151. Proceedings, 22nd North American Spine Society, Austin, TX, October 23-27, 2007.

Sobieraj MC, Kurtz SM, Manley M, Wang A, Rimnac CM. Multi-axial fatigue of a conventional and sequentially annealed highly crosslinked UHMWPE. Transactions of the 6th Combined Meeting of the Orthopaedic Research Societies, Honolulu, HI, Paper No. 24, October 21-24, 2007.

Bergström JS, Bowden AE, Wang A, Manley M, Rimnac CM, Kurtz SM. Validation of hybrid model and ultimate chain stretch criterion for a second-generation highly crosslinked UHMWPE. Poster No. 498. Transactions of the 6th Combined Meeting of the Orthopaedic Research Societies, Honolulu, HI, October 21-24, 2007.

Kurtz SM, Powell M, Ciccarelli L, Siskey R, White S, Chan F. Correlation of in-vivo and simulator-retrieved metal-on-metal cervical disc replacements. Paper No. 10. Proceedings, Eurospine 2007, Brussels, Belgium, October 2-6, 2007.

Kurtz SM, Heller J, Goffin J, Powell M, Ciccarelli L, Rouleau J, White S, Chan F. In vivo deformation and wear of retrieved Bryan cervical disc arthroplasties. Paper No. 12. Proceedings, Eurospine 2007, Brussels, Belgium, October 2-6, 2007.

van Ooij A, de Bruin T, Cleutjens J, Kurtz SM, Punt I, Van Rhijn LW. Polyethylene wear and periprosthetic inflammation in total disc arthroplasty. Paper No. 20. Proceedings, Eurospine 2007, Brussels, Belgium, October 2-6, 2007.

Punt I, Visser VM, Antonis JHA, van Rhijn LW, Kurtz SM, Schurink GWH, van Ooij A. Results of salvage

operations for failed artificial discs: Does implant removal improve the outcome of revision total disc replacement surgery? Paper No. 21. Proceedings, Eurospine 2007, Brussels, Belgium, October 2-6, 2007.

Kurtz SM, Lau E, Havelin L, Dybvik E, Ong KL, Malchau H. Comparison of arthroplasty survivorship in the U.S. and Scandinavia. Free Paper No. F176. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Walter W, Kurtz SM, Tuke M, Hozack W, Holley K, Campbell D, Hooper G, Garino J, Spriggins T. Retrieval analysis of squeaking alumina ceramic-on-ceramic bearings. Free Paper No. F450. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Van Ooij A, Kurtz SM, Van Rhijn L, De Bruin T. Polyethylene wear of Charité artificial discs: Macroscopic and microscopic wear and inflammatory reaction in peri-prosthetic tissue of 23 retrievals in 19 patients. Free Paper No. F758. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Day J, Ong KL, Kurtz SM, Manley M. A finite element comparison of bone remodeling around bone-conserving femoral stems. Poster No. 552. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Kurtz SM, Hozack W, Purtill J, Parvizi J. In vivo oxidation around locking mechanisms in retrieved annealed highly crosslinked liners. Poster No. 659. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Ong KL, Day J, Kurtz SM, Field R, Manley M. Role of surgical variations on initial bone remodeling around hip resurfacing arthroplasty. Poster No. 727. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Kurtz SM, Parvizi J, Purtill J, Sharkey P, MacDonald D, Shah P, Brenner E, Kraay M, Goldberg V, Rimnac CM. In vivo oxidation contributes to delamination but not pitting in TKA. Poster No. 943. Transactions of the 8th EFORT Congress, Florence, Italy, May 11-15, 2007.

Kurtz SM, Powell M, Ciccarelli L, Siskey R, White S, Chan F. Correlation of in-vivo and simulator-retrieved metal-on-metal cervical disc replacements. Paper No. PA-WE08. 7th Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May 1-4, 2007.

Kurtz SM, MacDonald D, Ciccarelli L, van Ooij A, Isaza J, Ross R, Bowden A, Patwardhan A. Are one-sided wear patterns predictive of greater clinical wear in mobile bearing TDRs? Paper No. PA-WE09. 7th Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May 1-4, 2007.

Kurtz SM, Heller J, Goffin J, Powell M, Ciccarelli L, Rouleau J, White S, Chan F. In vivo deformation and wear of retrieved Bryan cervical disc arthroplasties. Poster No. 109. 7th Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May 1-4, 2007.

Bowden AE, Shkolnikov Y, MacDonald D, Kurtz SM. Development and validation of an automated MicroCT-based technique for mapping damage of explanted polymeric components for TDR. Poster No. 196. 7th Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May 1-4, 2007.

Kurtz SM, Walter WL, Hozak W, Garino J, Tuke M, Parvizi J, Kirsch G, Ellis A. Retrieval analysis of squeaking alumina ceramic-on-ceramic bearings. Paper No. 196. 74th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 14-18, 2007.

Kurtz SM, Ong K, Lau E, Mowat F, Saleh K, Schmier J. Projected economic burden of revision THA and TKA for Medicare enrollees in the next decade. Paper No. 22. 74th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 14-18, 2007.

Kurtz SM, Patwardhan A, van Ooij A, Lorenz M, Zindrick M, O'Leary P, Pelozo J, Ciccarelli L, Villarraga ML. What is the correlation of in vivo wear and fracture patterns with in vitro TDR motion response? Paper No. 437. 74th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 14-18, 2007.

Kurtz SM, Ong K, Lau E, Mowat F, Schmier J. The surgeons' revision burden: Analysis of caseload disparities in the United States (1990 to 2003). Poster No. 134. 74th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 14-18, 2007.

Kurtz SM, Lau E, Ong K, Schmier J, Parvizi J. The future infection burden in the United States: National projections from 2005 to 2030. Poster No. 0747. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Mazzucco D, Siskey R, Dumbleton J, Wang A, Manley M. Trace concentrations of vitamin E protect radiation crosslinked UHMWPE from oxidative degradation. Paper No. 20. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Lau E, Havelin L, Dybvik E, Ong K, Malchau H. Arthroplasty survivorship in the US and Scandinavia: A Medicare-based comparison. Poster No. 1753. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Day J, Ong K, Bowden A, Manley M. A finite element comparison of bone conserving femoral stems. Poster No. 1715. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Day J, Steinbeck M, Baxter R, Grochowsky J, Sakona A, Abboud J, Ramsey M. Poster No. 1813. Wear analyses of retrieved components from total elbow arthroplasty. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Parvizi J, Purtill P, Sharkey P, MacDonald D, Shah P, Brenner E, Kraay M, Goldberg V, Rimnac C. In vivo oxidation contributes to delamination but not pitting in TKA. Poster No. 1891. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, van Ooij A, Ross R, de Waal J, Isaza J, Pelozo J, Ciccarelli L, MacDonald D, Villarraga ML. Clinical significance of polyethylene oxidation for total disc arthroplasty. Poster No. 1130. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Manley M, Ong K, Rushton N, Field R. Biomechanics of a PEEK horseshoe-shaped cup: Comparisons with a predicate deformable cup. Poster No. 1717. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Ong K, Bowden A, Manley M, Munting E. Biomechanics of a stemless, metaphyseal fixation femoral design: Effects of screw fixation and interface conditions. Poster No. 1714. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Ong K, Day J, Field R, Manley M. Adaptive bone remodeling around the Birmingham hip resurfacing arthroplasty. Poster No. 1693. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Ong K, Day J, Field R, Manley M. Role of surgical variations on initial bone remodeling around the Birmingham resurfacing arthroplasty. Poster No. 1709. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Ong K, Lau E, Chin K, Ianuzzi A, Villarraga ML. Cervical, thoracic, and lumbar fusion rates in the U.S.: Perspective from two health databases. Poster No. 1016. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Ong K, Lau E, Chin K, Ianuzzi A, Villarraga ML. Projections to 2030 of the prevalence of primary and revision spine fusions in the U.S. Poster No. 1070. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Ong K, Lau E, Mowat F, Saleh K, Schmier J. Projected economic burden of revision THA and TKA for Medicare enrollees in the next decade. Poster No. 0746. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, Sobieraj M, Wang A, Manley M, Rimnac C. Rate and notch-induced triaxial stress state effects on the axial stress and strain behavior of a conventional and sequentially annealed highly crosslinked UHMWPE. Poster No. 1789. Transactions of the Orthopaedic Research Society 2007; 32.

Kurtz SM, van Ooij A, Ross ER, Ciccarelli L, Villarraga ML. Analysis of textured endplates and bone ongrowth in retrieved Charité total disc replacements. Poster #113. Proceedings, North American Spine Society, Seattle, WA, September 26-30, 2006.

Kurtz SM, Patwardhan A, van Ooij A, Lorenz M, Zindrick M, O'Leary P, Pelozo J, Ciccarelli L, Villarraga ML. What is the correlation of in vivo wear and fracture patterns with in vitro TDR motion response? Special Interest Poster #87. Proceedings, North American Spine Society, Seattle, WA, September 26-30, 2006.

Kurtz SM, Lau E, Ong K. Survival of hip and knee arthroplasty in the U.S. using Medicare data. Poster No. 33. 16th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 3-5, 2006.

Kurtz SM, Patwardhan A, van Ooij A, Lorenz M, Zindrick M, O'Leary P, Pelozo J, Ciccarelli L, Villarraga ML. What is the correlation of in vivo wear and fracture patterns with in vitro TDR motion response? Paper No. SP31. Annual Meeting of the Spine Society of Europe (Eurospine 2006), Istanbul, Turkey, October 25-28, 2006.

Kurtz SM, van Ooij A, Pelozo J, Ciccarelli L, MacDonald D, Topper J, Villarraga ML. Impact of in vivo oxidation on the clinical performance of total disc replacements. E-Poster No. 495. 13th International Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006.

Kurtz SM, Patwardhan A, van Ooij A, Lorenz M, Zindrick M, O'Leary P, Pelozo J, Ciccarelli L, Villarraga ML. What is the correlation of in vivo wear and fracture patterns with in vitro TDR motion response? Paper No. 38. 13th International Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006.

Kurtz SM, Bergström JS, Bowden A, Rimnac CM. Development and implementation of an advanced user material model for UHMWPE. Transactions of the 9th International LS-DYNA Users Conference, Dearborn, Michigan, July 4-6, 2006.

Kurtz SM, Patwardhan A, van Ooij A, Lorenz M, Zindrick M, O'Leary P, Pelozo P, Ciccarelli L, Villarraga ML. What is the correlation of in vivo wear and fracture patterns with in vitro TDR motion response? 6th Annual Meeting of the Spine Arthroplasty Society, Montreal, Canada, May 9-12, 2006. 2006 Spine Education In Research Award.

Kurtz SM, Bowden A, Bergström JS, Rimnac CM. Rim fracture risk of highly crosslinked polyethylene total disc replacements. 6th Annual Meeting of the Spine Arthroplasty Society, Montreal, Canada, May 9-12, 2006.

Kurtz SM, van Ooij A, Ciccarelli L, Villarraga ML. Analysis of textured endplates and bone ongrowth in retrieved Charité total disc replacements. 6th Annual Meeting of the Spine Arthroplasty Society, Montreal,

Canada, May 9-12, 2006.

Kurtz SM, Pare P, Buchholz P, McCombe P, Chan F. Characterization of the first explanted maverick and comparison with implants tested using a spine wear simulator. 6th Annual Meeting of the Spine Arthroplasty Society, Montreal, Canada, May 9-12, 2006.

Kurtz SM, van Ooij A, Pelozo J, Ciccarelli L, MacDonald D, Topper J, Villarraga ML. The impact of polyethylene oxidation on the long-term clinical performance of total disc replacements. 6th Annual Meeting of the Spine Arthroplasty Society, Montreal, Canada, May 9-12, 2006.

Kurtz SM, van Ooij A, Pelozo J, Ciccarelli L, Villarraga ML. Polyethylene wear and rim fracture in total disc arthroplasty. Paper No. PAPR108. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Kurtz SM, Lau E, Zhao K, Mowat F, Ong K, Halpern M. The future burden of hip and knee revisions: U.S. projections from 2005 to 2030. Paper No. PAPR403. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Kurtz SM, McCombe P, Ciccarelli L, Villarraga ML, Chan F. Analysis of in vivo wear mechanisms in maverick total disc arthroplasty. Poster No. P398. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Kurtz SM, Ong K, Chin K, Lau E, Mowat F, Villarraga ML. Changes in revision spine fusion rates at all levels in the United States from 1990-2003. Poster No. P394. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 22-26, 2006.

Kurtz SM, Manley M, Ong K, Rushton N, Field R. Biomechanical assessment of a novel deformable acetabular cup design. Poster No. 188. British Hip Society 2006 Annual Meeting, Edinburgh, UK, March 1-3, 2006.

Kurtz SM, Day J, Manley M, Rushton N, Field R. Biomechanics of the Birmingham hip resurfacing arthroplasty. Poster No. 187. British Hip Society 2006 Annual Meeting, Edinburgh, UK, March 1-3, 2006.

Kurtz SM, van Ooij A, van Rhjin LW, Pelozo J, Ciccarelli L, Villarraga ML. PE wear, rim fracture, and osteolysis in retrieved total disc replacements. Transactions of the Orthopaedic Research Society 2006; 31:117.

Kurtz SM, Lau E, Mowat F, Ong K, Halpern M. Nationwide trends in revision surgery caseload in the U.S. from 1990-2003. Transactions of the Orthopaedic Research Society 2006; 31:179.

Kurtz SM, Lau E, Schmier J, Parvizi J, Halpern M. Nationwide infection burden in revision hip and knee arthroplasty Transactions of the Orthopaedic Research Society 2006; 31:235.

Kurtz SM, Manley M, Ong K. Shell material properties and periprosthetic bone stresses in modular acetabular components of hip replacement for young patients. Transactions of the Orthopaedic Research Society 2006; 31:486.

Kurtz SM, Manley M, Ong K, Rushton N, Field R. Biomechanical assessment of a novel deformable acetabular cup design, Transactions of the Orthopaedic Research Society 2006; 31:517.

Kurtz SM, Ong K, Day J, Manley M. Biomechanics of the Birmingham hip resurfacing arthroplasty: Effects of fixation and interface conditions. Transactions of the Orthopaedic Research Society 2006; 31:528.

Kurtz SM, Purtill J, Sharkey P, Topper D, MacDonald D, Kraay MJ, Goldberg VM, Parvizi J, Rimnac CM. Clinical significance of in vivo oxidation for gamma sterilized knees. Transactions of the Orthopaedic

Research Society 2006; 31:552.

Kurtz SM, Mazzucco D, Dumbleton J. Can in vivo oxidation of UHMWPE be simulated and accelerated in vitro? Transactions of the Orthopaedic Research Society 2006; 31:666.

Kurtz SM, MacDonald D, Rimnac CM. Gamma inert-sterilization improves in vivo oxidation resistance of acetabular liners. Transactions of the Orthopaedic Research Society 2006; 31:669.

Kurtz SM, Hozack W, Purtill J, MacDonald D, Topper J, Martell J, Parvizi J. the locking mechanisms of retrieved crossfire liners do not oxidize in vivo. Transactions of the Orthopaedic Research Society 2006; 31:670.

Kurtz SM, Ong K, Chin K, Lau E, Mowat F, Villarraga ML. Age and gender prevalence of revision spine fusion rates in the United States from 1990 to 2003. Transactions of the Orthopaedic Research Society 2006; 31:1265.

Kurtz SM, Lau E, Ong KL, Mowat FS, Halpern M. The future revision burden in the United States: National projections from 2005 to 2030. Transactions of the Orthopaedic Research Society 2006; 31:1576.

Kurtz SM, Lau E, Mowat F, Ong K, Halpern M, Schmier J. Racial differences in hip and knee arthroplasty in the United States. Poster No. 1. 15th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 4-6, 2005.

Kurtz SM, Lau E, Ong K, Halpern M, Schmier J. The future burden of hip and knee revisions: U.S. projections from 2005 to 2030. Poster No. 2. 15th Annual Meeting of the American Association of Hip and Knee Surgeons, Dallas, TX, November 4-6, 2005.

Kurtz SM, Ong K, Manley M. Biomechanics of the Birmingham hip resurfacing arthroplasty. Paper A3-4. 18th International Symposium of the International Society for Technology in Arthroplasty, Kyoto, Japan, September 29-October 2, 2005.

Kurtz SM, Ong K, Chin K, Lau E, Mowat F, Villarraga ML. Age and gender prevalence of revision spine fusion rates in the United States from 1990 to 2003. Philadelphia Spine Research Symposium, Philadelphia, PA, September 27, 2005.

Kurtz SM, McCombe P, Ciccarelli L, Villarraga ML, Chan F. Retrieval analysis of short-term implanted maverick total disc arthroplasty. Paper #124. Proceedings, North American Spine Society, Philadelphia, PA, September 28-October 1, 2005.

Kurtz SM, van Ooij, Peloza J, Ciccarelli L, Zeiger A, Villarraga ML. Central core and rim damage in retrieved polyethylene total disc replacement components. Paper #17. Proceedings, North American Spine Society, Philadelphia, PA, September 28-October 1, 2005.

Kurtz SM, Lau E, Schmier J, Halpern M, Edidin AA. Mortality following diagnosis of vertebral compression fracture (VCF) in the Medicare population. Paper #197. Proceedings, North American Spine Society, Philadelphia, PA, September 28-October 1, 2005.

Kurtz SM, Schmier J, Halpern M, Lau E, Edidin AA. Medical care costs associated with vertebral fractures among Medicare beneficiaries. Poster #93. Proceedings, North American Spine Society, Philadelphia, PA, September 28-October 1, 2005.

Kurtz SM, van Ooij A, Peloza J, Ciccarelli L, Zeiger A, Villarraga ML. Polyethylene wear and rim fracture of retrieved total disc arthroplasty. Paper #41. Annual Meeting of the Spine Society of Europe, Barcelona, Spain, September 21-24, 2005.

Kurtz SM, Chan F, Pare P, Buccholz P, McCombe P. In vitro wear performance of total discs — What methods are appropriate? Poster #46. Annual Meeting of the Spine Society of Europe, Barcelona, Spain, September 21-24, 2005.

Kurtz SM, van Ooij A, Pelozo J, Ciccarelli L, Zeiger A, Villarraga ML. Polyethylene wear analysis of retrieved total disc arthroplasty. Paper #6. 12th International Meeting on Advanced Spine Techniques, Banff, Alberta, July 7-9, 2005.

Kurtz SM, Chan F, Pare P, Buchholz P, McCombe P. Is unidirectional motion clinically relevant for wear testing of artificial disc implants? E-Poster #228. International Meeting on Advanced Spine Techniques, Banff, Alberta, July 7-9, 2005.

Kurtz SM, McCombe P, Ciccarelli L, Villarraga ML, Chan F. In vivo wear mechanisms in a retrieved metal-on-metal total disc arthroplasty. E-Poster #235. 12th International Meeting on Advanced Spine Techniques, Banff, Alberta, July 7-9, 2005.

Kurtz SM, van Ooij A, Pelozo J, Ciccarelli L, Zeiger A, Villarraga ML. Wear and surface damage analysis of retrieved Charité total disc replacements. 5th Annual Meeting of the Spine Arthroplasty Society, New York, NY, May 4-7, 2005.

Kurtz SM, Bowden AE, Bergström, Villarraga ML. Biomechanical analysis of polyethylene stresses in the Charité total disc replacement. 5th Annual Meeting of the Spine Arthroplasty Society, New York, NY, May 4-7, 2005.

Kurtz SM, Chan F, Pare P, McCombe P, Metheny W, Davis N. Is unidirectional wear testing appropriate for total disc replacement implants? 5th Annual Meeting of the Spine Arthroplasty Society, New York, NY, May 4-7, 2005.

Kurtz SM, McCombe P, Ciccarelli L, Villarraga ML, Chan F. Analysis of in vivo wear mechanisms in a retrieved total disc arthroplasty. 5th Annual Meeting of the Spine Arthroplasty Society, New York, NY, May 4-7, 2005.

Kurtz SM, Mowat F, Ong K, Chan N, Lau E, Halpern M. The revision burden for hip and knee arthroplasty in the United States. Transactions of the 72nd Annual Meeting of the American Association of Orthopedic Surgeons, P058, 2005.

Kurtz SM, Ong K, Villarraga ML, Mazzucco D, Jaekel D, Edidin A. Mechanical properties of freshly-procured and previously-frozen human cadaveric nucleus. Transactions of the 72nd Annual Meeting of the American Association of Orthopedic Surgeons, P319, 2005.

Kurtz SM, Halpern M, Schmier J. Cost effectiveness thresholds for prophylactic use of antibiotic bone cement. Transactions of the 72nd Annual Meeting of the American Association of Orthopedic Surgeons, P048, 2005.

Kurtz SM, Mowat F, Ong K, Chan N, Lau E, Halpern M. Hip and knee arthroplasty revision rates in the United States: Implications for a national registry. Transactions of the Orthopaedic Research Society 2005; 30:265.

Kurtz SM, Grochowsky J, Most E, Alaways L, Siskey R. Digital photogrammetry for quantitative wear analysis of retrieved TKA components. Transactions of the Orthopaedic Research Society 2005; 30:153.

Kurtz SM, Costa L, Bracco P, Brach del Prever E, Gallinaro P. A European survey of oxidation and packaging for current orthopedic UHMWPE. Transactions of the Orthopaedic Research Society 2005; 30:1667.

Kurtz SM, Mazzucco D, Dumbleton J. Accelerated methods for simulating in vivo aging of gamma-sterilized UHMWPE Transactions of the Orthopaedic Research Society 2005; 30:1666.

Kurtz SM, Turner J, MacDonald D, Rimnac C. Does the femoral head inhibit in vivo degradation of acetabular liners? Transactions of the Orthopaedic Research Society 2005; 30:1680.

Kurtz SM, Mowat F, Ong K, Chan N, Lau E, Halpern M. Economic burden of hip and knee arthroplasty procedures in the Medicare population. Transactions of the Orthopaedic Research Society 2005; 30:1148.

Kurtz SM, Sharkey P, Purtill J, Grochowsky J, Taschner G, Most E, Hozack W, Parvisi J. Effect of wear damage on prevalence and extent of osteolysis in failed TKA. Transactions of the Orthopaedic Research Society 2005; 30:1203.

Kurtz SM, Gencur S, Rimnac C. Fatigue crack propagation resistance of conventional and highly crosslinked, thermally treated UHMWPE. Transactions of the Orthopaedic Research Society 2005; 30:1661.

Kurtz SM, Hozack W, MacDonald D, Turner J. Material property variation and clinical performance of retrieved crossfire liners. Transactions of the Orthopaedic Research Society 2005; 30:1684.

Kurtz SM, Bowden A, Edidin A. Validation of a MicroCT technique for measuring volumetric wear in retrieved acetabular liners. Transactions of the Orthopaedic Research Society 2005; 30:1189.

Kurtz SM, Stein H, Redeker G. Meeting the joint replacement challenge with ultra-high molecular weight polyethylene. Medical Design & Diagnostic Industry, March, 2005.

Kurtz SM, Hozack W, Turner J, Marcolongo M, Rimnac C, Edidin A. In vivo degradation of gamma air vs. inert-sterilized (arcom) UHMWPE acetabular liners. Transactions of the 71st Annual Meeting of the American Association of Orthopedic Surgeons 2004; p. P062, 2004.

Kurtz SM, Halpern M, Ray R, Martell M, Hozack W, Rothman R. Population cost and outcome thresholds for highly crosslinked acetabular components for THA in the U.S. population. Transactions of the 71st Annual Meeting of the American Association of Orthopedic Surgeons 2004; p. P033.

Kurtz SM, Villarraga ML, Bellezza A, Cripton P, Harrigan T, Edidin A. Biomechanical evaluation of kyphoplasty on treated and adjacent vertebral bodies. Transactions of the 71st Annual Meeting of the American Association of Orthopedic Surgeons 2004; p. P422.

Kurtz SM, Marcolongo M, Rimnac C, Hozack W, Turner J, Goldberg V, Kraay M, Edidin A. Does degradation of gamma air sterilized UHMWPE liners continue during implantation? Transactions of the Orthopaedic Research Society 2004; 29:186.

Kurtz SM, Villarraga ML, Bellezza A, Harrigan T, Cripton P. The biomechanical effects of kyphoplasty on adjacent non-treated vertebral bodies: A finite element analysis. Transactions of the Orthopaedic Research Society 2004; 29:1141.

Kurtz SM, Harrigan T, Charriere E, Streicher R. Acetabular shell-liner mismatch: Fluid volume displacement and contact conditions. Transactions of the Orthopaedic Research Society 2004; 29:1350.

Kurtz SM, Harrigan T, Bergström J, Rimnac C. Analysis of stresses and fracture risk for posterior-stabilized TKA designs incorporating highly crosslinked UHMWPE. Transactions of the Orthopaedic Research Society 2004; 29:1483.

Kurtz SM, Harrigan T, Manley M. Fluid pressurization screw hole model for metal-backed total joint components. Transactions of the Orthopaedic Research Society 2004; 29:1351.

Kurtz SM, Grochowsky J, Sharkey P, Purtill J, Hozack W, Siskey R. Relationship between post damage and condylar damage in posterior-stabilized TKA. Transactions of the Orthopaedic Research Society 2004; 29:1394.

Kurtz SM, Bergström J, Rimnac C. Ultimate property distributions for conventional and highly crosslinked UHMWPE. Transactions of the Orthopaedic Research Society 2004; 29:1470.

Kurtz SM, Bergström J, Rimnac C. Failure predictions of conventional and highly crosslinked UHMWPE. Transactions of the 7th World Biomaterials Congress 2004; p. 2648.

Kurtz SM, Bergström J, Harrigan T, Rimnac C. Failure risk assessment of TKA designs incorporating highly crosslinked UHMWPE. Transactions of the 7th World Biomaterials Congress 2004; p. 2654.

Kurtz SM, Bergström J, Rimnac C. Distributions of ultimate properties for conventional and highly crosslinked UHMWPE. Transactions of the 7th World Biomaterials Congress 2004; p. 2656.

Kurtz SM, Hozack W, Turner J, Marcolongo M, Klimash M, Edidin A. In-vivo changes to mechanical performance of UHMWPE acetabular liners following long-term implantation. Transactions of the 70th Annual Meeting of the American Association of Orthopedic Surgeons 2003; p. P017.

Kurtz SM, Villarraga ML, Cripton P, Edidin AA. The biomechanical effects of kyphoplasty on single thoraco-lumbar vertebrae: A parametric finite element analysis. Transactions of the Orthopaedic Research Society 2003; 28:29.

Kurtz SM, Cooper C, Siskey R, Allen M, Hubbard N. Effects of dose rate and thermal treatment on the physical and mechanical properties of highly crosslinked UHMWPE used in total joint replacement. Transactions of the Orthopaedic Research Society 2003; 28:1411.

Kurtz SM, Turner J, Bracco P, Costa L. The effect of cholesteryl acetate absorption on the mechanical behavior of crosslinked and conventional UHMWPE. Transactions of the Orthopaedic Research Society 2003; 28:1423.

Kurtz SM, Gencur S, Rimnac CM. Fracture toughness of conventional and highly crosslinked UHMWPEs. Transactions of the Orthopaedic Research Society 2003; 28:1426.

Kurtz SM, Turner J, Bracco P, Costa L. Does cholesteryl acetate absorption affect the mechanical properties of conventional and highly crosslinked UHMWPE? Transactions of the Society for Biomaterials 2003; 26:42.

Kurtz SM, Marcolongo M, Hozack W, Turner J, Rimnac C, Kraay M, Goldberg V, Edidin A. Evidence of in vivo mechanical degradation of UHMWPE acetabular inserts. Transactions of the Society for Biomaterials 2003; 26:44.

Kurtz SM, Bergström JS, Rimnac CM. Multiaxial failure modeling for conventional and highly crosslinked UHMWPE. Transactions of the Society for Biomaterials 2003; 26:175.

Kurtz SM, Hozack W, Turner J, Rimnac C, Kraay M, Goldberg V, Edidin A. Surface damage of short-term implanted conventional and highly crosslinked acetabular components for THA. Transactions of the 12th Annual Meeting of the American Association of Hip and Knee Surgeons 2002; p. 22.

Kurtz SM, Hozack W, Turner J, Rimnac C, Kraay M, Goldberg V, Edidin A. In-vivo degradation of mechanical properties and wear performance of UHMWPE acetabular liners. Transactions of the 12th

Annual Meeting of the American Association of Hip and Knee Surgeons 2002; p. 39.

Kurtz SM, Edidin AA, Villarraga ML, Herr MP, Ciccarelli L, Hozack W, Turner J. Relationship between clinical performance and mechanical behavior of retrieved UHMWPE acetabular liners. Transactions of the Society for Biomaterials 2002; 25:25.

Kurtz SM, Edidin AA, Villarraga ML, Ciccarelli L, Hozack W. Evaluation of wear in short term implanted highly-crosslinked uhmwpe inserts. Transactions of the Society for Biomaterials 2002; 25:27.

Kurtz SM, Edidin AA, Villarraga ML, Herr MP, Ciccarelli L, Bergström J, Rimnac C. Effect of temperature and crystallinity on the mechanical behavior of highly crosslinked UHMWPE. Transactions of the Society for Biomaterials 2002; 25:57.

Kurtz SM, Edidin AA, Herr MP, Hozack W, Turner J. Wear characterization in short term retrieved highly crosslinked UHMWPE liners using surface topology. Transactions of the Society for Biomaterials 2002; 25:184.

Kurtz SM, Edidin AA, Villarraga ML, Herr MP, Ciccarelli L, Rimnac CM. The role of shear in the wear mechanism of UHMWPE. Transactions of the Society for Biomaterials 2002; 25:186.

Kurtz SM, Edidin AA, Harrigan T. Stresses on subchondral bone after THA with use of alternative bearing surfaces. Transactions of the Society for Biomaterials 2002; 25:186.

Kurtz SM, Edidin AA, Villarraga ML, Herr MP, Ciccarelli L. The effect of body temperature on the multiaxial fatigue behavior of virgin and highly crosslinked UHMWPE. Transactions of the Society for Biomaterials 2002; 25:402.

Kurtz SM, Bergström J, Rimnac CM, Edidin A. Constitutive modeling of crosslinked UHMWPE for joint replacements. Transactions of the Orthopaedic Research Society 2002; 27:50.

Kurtz SM, Edidin A, Jaffe W, Harrigan T, Manley M. Effects of impact loading on alternative bearing surfaces and subchondral bone of THA. Transactions of the Orthopaedic Research Society 2002; 27:99.

Kurtz SM, Herr M, Turner J, Edidin A, Hozack W. Deconvolution of surface topology for quantification of initial wear in retrieved highly crosslinked acetabular inserts for THA. Transactions of the Orthopaedic Research Society 2002; 27:1012.

Kurtz SM, Spiegelberg S, Wallace S, Greer K, Costa L, Muratoglu C, Cooper C. Interlaboratory reproducibility of swell ratio measurements for crosslinked UHMWPE. Transactions of the Orthopaedic Research Society 2002; 27:1025.

Kurtz SM, Ciccarelli L, Edidin A, Bergström, Rimnac C, Villarraga ML, Herr M. Thermomechanical behavior of highly crosslinked UHMWPE: Effect of remelting vs. annealing. Transactions of the Orthopaedic Research Society 2002; 27:1026.

Kurtz SM, Villarraga ML, Ciccarelli L, Edidin A, Herr M. Multiaxial fatigue behavior of virgin and highly crosslinked UHMWPE at body temperature. Transactions of the Orthopaedic Research Society 2002; 27:1035.

Kurtz SM, Rimnac CM, Taki N, Lehman R, Edidin A. Steady state cyclic behavior of radiation sterilized and crosslinked UHMW polyethylenes. Transactions of the Orthopaedic Research Society 2002; 27:1040.

Kurtz SM, Jewett CJ, Foulds JR, Edidin AA. Shear punch testing for virgin and degraded UHMWPE in orthopaedic implants. Transactions of the Society for Biomaterials 2001; 24:42.

Kurtz SM, Edidin AA, Muth J. Montell 1900 degrades faster than GUR 1050 during accelerated aging after gamma irradiation in air. Transactions of the Society for Biomaterials 2001; 24:81.

Kurtz SM, Bergström J, Rimnac CM, Edidin AA. Constitutive theories for UHMWPE for monotonic and cyclic loading conditions. Transactions of the Society for Biomaterials 2001; 24:310.

Kurtz SM, Bergström J, Rimnac CM, Edidin AA. Multiaxial validation of constitutive theories for UHMWPE. Transactions of the Society for Biomaterials 2001; 24:311.

Kurtz SM, Edidin AA, Jewett CJ. Shear resistance of virgin and crosslinked UHMWPE for TJR. Transactions of the Society for Biomaterials 2001; 24:398.

Kurtz SM, Villarraga ML, Edidin AA. Fatigue punch testing of virgin and crosslinked UHMWPE under cyclic multiaxial loading conditions. Transactions of the Society for Biomaterials 2001; 24:478.

Kurtz SM, Edidin AA, Muth J. Nitrogen bomb aging of UHMWPE. Transactions of the Society for Biomaterials 2001; 24:591.

Kurtz SM, Giddings V, Edidin A. Coupled stress and kinematic analysis of a contemporary load-controlled knee simulator. Transactions of the Orthopaedic Research Society 2001; 26:1106.

Kurtz SM, Villarraga ML, Edidin A. Fatigue response of virgin and crosslinked UHMWPE to cyclic multiaxial loading. Transactions of the Orthopaedic Research Society 2001; 26:1020.

Kurtz SM, Edidin A, Herr M, Yau S-S, Muth J. Virgin UHMWPE is not immune to oxidative degradation: A useful feature of accelerated aging? Transactions of the Orthopaedic Research Society 2001; 26:1027.

Kurtz SM, Bergström J, Rimnac C, Edidin A. Constitutive modeling of UHMWPE used in total joint replacements under monotonic and cyclic loading conditions. Transactions of the Orthopaedic Research Society 2001; 26:1028.

Kurtz SM, Hozack W, Ray R, Edidin A. Biomechanical analysis of cementing an acetabular liner in a metal shell for revision total hip arthroplasty. Transactions of the Orthopaedic Research Society 2001; 26:1078.

Kurtz SM, Edidin A, Hozack W, Gomez C, Herr M. Mechanical behavior of acetabular components after implantation. Transactions of the Orthopaedic Research Society 2001; 26:1064.

Kurtz SM, Srivastav S, Dwyer K, Ochoa J, Brown S. Analysis of the stem-sleeve interface in a modular titanium alloy femoral component for total hip replacement. ASME 2000 Congress and Exposition, Symposium on Functional Biomaterials: Joint Replacement, Orlando, FL, November 7, 2000.

Kurtz SM, Edidin A. Development and validation of the small punch test for UHMWPE used in total joint replacements. ASME 2000 Congress and Exposition, Symposium on Functional Biomaterials: Joint Replacement, Orlando, FL, November 7, 2000.

Kurtz SM, Giddings VL, Jewett CW, Foulds JR, Edidin AA. Temperature and formulation dependence of elastic and fracture behavior during small punch testing of bone cements. Transactions of the 6th World Biomaterials Congress 2000; p. 412.

Kurtz SM, Edidin AA, Fisher J, Dharmastiti R, Barton DC, Doyle C. Mechanical behavior of slot drawn UHMWPE under multiaxial drawing conditions. Transactions of the 6th World Biomaterials Congress 2000; p. 388.

Kurtz SM, Muratoglu OK, Buchanan F, Currier B, Gsell RA, Greer K, Gualtieri GM, Johnson R, Schaffner

S, Sevo K, Spiegelberg S, Shen FW, Yau S-S. Interlaboratory uncertainty of oxidation measurements after accelerated aging of UHMWPE. Transactions of the 6th World Biomaterials Congress 2000; p. 921.

Kurtz SM, Giddings VL, Muratoglu OK, O'Connor DO, Harris WH, Krevolin J. Finite element analyses of a highly crosslinked acetabular component for total hip replacement. Transactions of the 6th World Biomaterials Congress 2000; p. 1463.

Kurtz SM, Giddings VL, Muratoglu OK, Harris WH, Krevolin J. Stresses in a highly crosslinked patellar component for total knee replacement. Transactions of the 6th World Biomaterials Congress 2000; p. 1472.

Kurtz SM, Rising M, Chui C, Abnet C, Muhlstein C, Rimnac CM, Edidin AA. Quantification and validation of hip simulator wear surface topology using white light interferometry. Transactions of the 6th World Biomaterials Congress 2000; p. 1470.

Kurtz SM, Rising M, Chui C, Abnet C, Muhlstein C, Edidin AA Surface morphology of UHMWPE, PTFE, HDPE, and polyacetal after hip simulator testing. Transactions of the 6th World Biomaterials Congress 2000; p. 1475.

Kurtz SM, Muratoglu OK, Buchanan F, Currier B, Gsell RA, Greer K, Gualtieri GM, Johnson R, Schaffner S, Sevo K, Spiegelberg S, Shen FW, Yau S-S. Interinstitutional reproducibility of standard accelerated aging methods for UHMWPE. Transactions of the Orthopaedic Research Society 2000; 25:3.

Kurtz SM, Giddings VL, Muratoglu OK, O'Connor DO, Harris WH, Krevolin J. Stresses in a highly crosslinked acetabular component for total hip replacement. Transactions of the Orthopaedic Research Society 2000; 25:222.

Kurtz SM, Giddings VL, Jewett CW, Foulds JR, Edidin AA. A small punch test technique for characterizing PMMA used in total joint replacement. Transactions of the Orthopaedic Research Society 2000; 25:509.

Kurtz SM, Rising M, Chui C, Abnet C, Muhlstein C, Edidin AA. Surface morphology of four clinically relevant biomaterials after hip simulator testing. Transactions of the Orthopaedic Research Society 2000; 25:539.

Kurtz SM, Edidin AA, Fisher J, Dharmastiti R, Barton DC, Doyle C. Enhancement of multiaxial mechanical behavior by slot drawing of UHMWPE: A candidate biomaterial for total knee arthroplasty. Transactions of the Orthopaedic Research Society 2000; 25:563.

Kurtz SM, Edidin AA, Giddings VL. The role of elastic and large-strain mechanical behavior on the wear of UHMWPE, HDPE, PTFE, and polyacetal evaluated by a hip simulator. 1999 Advances in Bioengineering, ASME, BED-43:127-128, 1999.

Kurtz SM, Muhlstein CL, Chui C, Rising M, Edidin AA. The relationship between hip simulator wear and surface morphology characterized using white light interferometry. 1999 Advances in Bioengineering, ASME, BED — 43:149-150, 1999.

Kurtz SM, Jewett CW, Kalinowski A, Rimnac CM, Edidin AA. Mechanical degradation of retrieved UHMWPE tibial components characterized by the small punch test. 1999 Advances in Bioengineering, ASME, BED — 43:151-152, 1999.

Kurtz SM, Rimnac CM, Goldberg V, Kraay M, Krzyppow D, Platte S, Jewett CW, Foulds JR, Kalinowski A, Edidin AA. The mechanical performance of conventional vs. Hylamer-M retrieved tibial inserts. Transactions of the Society for Biomaterials 1999; 22:4.

Kurtz SM, Edidin AA, Jewett CW, Kwarteng K, Kalinowski A, Kester M. Through-thickness degradation of UHMWPE is more severe than previously estimated using indirect techniques, Transactions of the Society for Biomaterials 1999; 22:7.

Kurtz SM, Muratoglu OK, Mounib L, Buchanan F, Currier B, Gsell R, Shen S, Swope S, Yau S-S, Urian C. Confirmed interlaboratory validation studies of a standard method for determining the oxidation index of UHMWPE. Transactions of the Society for Biomaterials 1999; 22:46.

Kurtz SM, Edidin AA. Validation of a modern hip simulator using four clinically applied polymeric biomaterials. Transactions of the Society for Biomaterials 1999; 22:177.

Kurtz SM, Spiegelberg, Edidin AA. Effects of molecular weight distribution on the network properties of radiation- and chemically-crosslinked ultra high molecular weight polyethylene. Transactions of the Society for Biomaterials 1999; 22:215.

Kurtz SM, Ambrosio AMA, Sahota JS, Runge C, Allcock HR, Laurencin CT. A novel polyphosphazene-hydroxyapatite composite for bone repair: Mechanical evaluation during in vitro degradation. Transactions of the Society for Biomaterials 1999; 22:407.

Kurtz SM, Crane DJ, Pruitt LA, Rimnac CM, Edidin AA. Plasticity induced damage layer and lamellar alignment detected in UHMWPE: A comparison of retrievals and simulator components. Transactions of the Society for Biomaterials 1999; 22:515.

Kurtz SM, Jewett CW, Crane D, Pruitt L, Foulds JR, Edidin AA. Effect of peroxide and radiation crosslinking on the strain hardening behavior and molecular alignment of UHMWPE. Transactions of the Society for Biomaterials 1999; 22:516.

Kurtz SM, Ochoa JA, Hovey CB, White CV. Frontside vs. backside wear in an acetabular component with multiple screw holes. Transactions of the Orthopaedic Research Society 1999; 24:54.

Kurtz SM, Edidin AA, Jewett CW, Foulds JR. Direct correlation of abrasive wear for irradiation-crosslinked UHMWPE with large-deformation mechanical behavior determined at the articulating surface. Transactions of the Orthopaedic Research Society 1999; 24:101.

Kurtz SM, Levine D, Lin S. Mechanical behavior of UHMWPE characterized by uniaxial and biaxial tension tests. Transactions of the Orthopaedic Research Society 1999; 24:820.

Kurtz SM, Muratoglu OK, Mounib B, Currier B, Gsell R, Hastings B, Shen F, Yau S-S, Urian C. Interlaboratory validation of a standard for determining the oxidation index of UHMWPE. Transactions of the Orthopaedic Research Society 1999; 24:98.

Kurtz SM, Jewett CW, Crane D, Pruitt L, Foulds JR, Edidin AA. Radiation and chemical crosslinking promotes strain hardening behavior and molecular alignment in UHMWPE under multiaxial loading conditions. Transactions of the Orthopaedic Research Society 1999; 24:842.

Kurtz SM, Edidin A, Taylor SK, Bruchalski P, Serekian P. Measurement of average wear rates for four clinically applied biomaterials. Transactions of the Orthopaedic Research Society 1999; 24:856.

Kurtz SM, Edidin AA, Jewett CW, Kwarteng K, Kalinowski A, Kester M. Degradation of through-thickness mechanical properties is more severe than previously estimated using indirect measurement techniques. Transactions of the Orthopaedic Research Society 1999; 24:74.

Kurtz SM, Thibault KL, Kothari M, Giddings VL, Thibault LE. Structural response of the infant braincase to multidirectional impacts. Transactions of the Third World Congress of Biomechanics 1998; p. 466a.

Kurtz SM, Runge C, Thibault KL, Thibault LE. Finite element analysis of deformation of the human infant head under impact loading conditions. Proceedings, 8th Injury Prevention Through Biomechanics Symposium 1998; p. 175.

Kurtz SM, Runge C, Youssef A, Magram G, Thibault LE. Material properties of human infant skull: Experiments and numerical analysis. Proceedings, 8th Injury Prevention Through Biomechanics Symposium 1998; p. 173.

Kurtz SM, Jewett CW, Crane D, Pruitt L, Foulds JR, Edidin AA. Ultimate properties and crystalline morphology of ultra-high molecular weight polyethylene during uniaxial and biaxial tension. Transactions of the Society for Biomaterials 1998; 21:125.

Kurtz SM, Foulds JR, Jewett CW, Edidin AA. Direct correlation of abrasive wear resistance of irradiation-crosslinked UHMWPE cups with large-deformation mechanical behavior determined at the articulating surface. Transactions of the Society for Biomaterials 1998; 21:220.

Kurtz SM, Crane D, Pruitt L, Edidin AA. Structural evolution in UHMWPE due to accelerated thermal aging after gamma radiation in air versus nitrogen: The effect of heating rates. Transactions of the Society for Biomaterials 1998; 21:503.

Kurtz SM, Thibault KL, Margulies SS. Effect of age-dependent properties of the braincase on the response of the infant brain to impact. 1997 Advances in Bioengineering 1997; 36:137-138.

Kurtz SM, Edidin AA. A miniature specimen mechanical testing technique scaled to the articulating surface of polyethylene components for total joint arthroplasty. 10th Annual Symposium on the Future of Technology in Arthroplasty, ISTA 1997; 66-67.

Kurtz SM, Jewett CW, Crane DJ, Taylor SK, Foulds JR, Pruitt L, Edidin AA. Effect of crosslinking on abrasive wear resistance, crystalline morphology, and the large deformation mechanical behavior at the articulating surface. Transactions of the Third World Congress of Biomechanics 1998; p. 349a.

Kurtz SM, Edidin AA. Small punch miniature specimen mechanical test. Annals of Biomedical Engineering 1998; 26(Supplement 1):S-120, PB.3.

Kurtz SM, Crane D, Pruitt L, Edidin AA. Degradation rate during accelerated thermal aging of UHMWPE after gamma sterilization in air and nitrogen. Transactions of the Orthopaedic Research Society, Vol. 23, p. 788, 1998.

Kurtz SM, Foulds JR, Jewett CW, Edidin AA. Small punch test for characterization of aged UHMWPE after gamma sterilization in air and nitrogen. Transactions of the Orthopaedic Research Society 1998; 23:361.

Kurtz SM, Jewett CW, Foulds JR, Manley M, Edidin AA. Mechanical characterization of ultra-high molecular weight polyethylene using the small punch test after gamma sterilization and aging. Transactions of the Society for Biomaterials 1998; 21:500.

Kurtz SM, Ochoa JA, White CV. Liner/shell load transfer mechanisms in a modular acetabular component for total hip replacement. 1997 Advances in Bioengineering 1997; 36:303-304.

Kurtz SM, Jewett CW, Foulds JR, Moalli JE, Edidin AA. An elastic-plastic material model for the true stress-strain behavior of ultra-high molecular weight polyethylene in tension and compression 1997 Advances in Bioengineering 1997; 36:311-312.

Kurtz SM, Jewett CW, Moalli JE, Vogt RM, Edidin AA. The true ultimate stresses and fracture morphology of ultra-high molecular weight polyethylene upon tensile failure. 1997 Bioengineering Conference 1997;

35:57-58.

Kurtz SM, Jewett CW, Foulds JR, Srivastav S, Edidin AA. Small punch testing for characterization of ultra-high molecular weight polyethylene used in total joint replacements. 1997 *Advances in Bioengineering* 1997; 36:307-308.

Kurtz SM, Cournoyer JR, Ochoa JA. Relative motion at the backside of a metal-backed acetabular component under quasistatic and dynamic loading. *Transactions of the Orthopaedic Research Society* 1997; 22:839.

Kurtz SM, Ochoa JA, White CV, Srivastav S, Cournoyer JR. The effect of nonconformity and locking restraints on backside micromotion for a metal-backed acetabular component with a polar fenestration. *Transactions of the Orthopaedic Research Society* 1997; 22:312.

Kurtz SM, Bartel DL, Rimnac CM. Analysis of the stresses and strains in UHMWPE components for total joint replacement after chemical and mechanical degradation. 1996 *Advances in Bioengineering* 1996; 33:315-316.

Kurtz SM, Edidin AA, Bartel DL. The effects of thickness, backside polishing, and cup angle on the contact stresses in a metal-backed acetabular component. *Transactions of the Orthopaedic Research Society* 1996; 21:460.

Kurtz SM, Rimnac CM, Bartel DL. The degradation rate of UHMWPE components. *Transactions of the Orthopaedic Research Society* 1996; 21:492.

Kurtz SM, Bartel DL, Rimnac CM. Effects of post-irradiation aging on the stresses and strains in UHMWPE tibial components for TKR. *Transactions of the 2nd Combined Meeting of the Orthopaedic Research Societies of U.S.A., Japan, Canada, and Europe* 1995; p. 70.

Kurtz SM. The effects of degradation on the properties, stresses, and strains in ultra-high molecular weight polyethylene components for total hip and knee replacement. Dissertation, Cornell University, 1995.

Kurtz SM, Bartel DL, Rimnac CM. Post-irradiation aging and the stresses in ultra-high molecular weight polyethylene components for total joint replacement. *Transactions of the Orthopaedic Research Society* 1994; 19:584.

Kurtz SM, Rimnac CM, Li S, Bartel DL. A bilinear material model for ultra-high molecular weight polyethylene total joint replacements. *Transactions of the Orthopaedic Research Society* 1994; 19:289.

Kurtz SM, Bartel DL, Edidin AA. The effect of gaps on contact stress and relative motion in a metal backed acetabular component for total hip replacement. *Transactions of the Orthopaedic Research Society* 1994; 19:243.

Kurtz SM, Gabriel SM, Bartel DL. The effect of non-conformity between metal-backing and polyethylene inserts in acetabular components for total hip arthroplasty. *Transactions of the Orthopaedic Research Society* 1993; 18:434.

Selected Invited Seminars and Workshops

Kurtz S. The Future of PEEK Biomaterial in Implant Design. Orthopaedic Research Society. Austin, TX, February 2019.

Kurtz S. Are We Winning or Losing the War on Periprosthetic Joint Infection? ASTM Workshop on Antimicrobial Combination Devices. Atlanta, GA, November 2017.

Kurtz S. The Value of Explant Retrieval Analysis in Collaboration with Orthopaedic Registries. ASTM Symposium on Beyond the Implant: Retrieval Analysis Methods for Implant Surveillance. Toronto, ON, Canada, May 2017.

Kurtz S. Integration of a National Multi-Institutional Retrieval Program into Established Orthopaedic Registries in the US. The Northern Retrieval Registry Inaugural Conference. Newcastle, UK. May 2017.

Kurtz S. Advances in UHMWPE Biomaterials for Total Joint Arthroplasty. Spotlight Session, 2016 ORS Annual Meeting, Orlando, FL, March 2016.

Kurtz SM. Challenges to Meet the Rising Global Demand for Total Hip Arthroplasty. 45th Annual Meeting of the Japanese Society for Replacement Arthroplasty, Osaka, Japan, February 2016.

Kurtz S. Polyethylene Retrieval Analysis. Symposium on Articulations in Total Joint Replacement: Have We Lost Our Bearings? 2015 AAOS Annual Meeting, Las Vegas, NV, March 2015.

Kurtz S. Current Status of Technologies to Treat Periprosthetic Joint Infections. Workshop on Hot Topics in Regulatory Challenges within Orthopaedics. 2015 ORS Annual Meeting, Las Vegas, NV, March 2015.

Kurtz SM. Does taper corrosion occur with ceramic heads? Harvard Medical School, 44th Annual Advances in Arthroplasty Course. Boston, MA, USA, October 2014.

Kurtz SM. What new implant to choose after taper corrosion and taper damage? Harvard Medical School, 44th Annual Advances in Arthroplasty Course. Boston, MA, USA, October 2014.

Kurtz SM. The connection between stem and head - a new area of concern? Tribology Day, 15th EFORT Congress, London, England, June 2014.

Kurtz SM, Paxon L, Rimnac C. The value of explant retrieval analysis in collaboration with orthopaedic registries. 3rd International Congress of Arthroplasty Registries, Boston, MA, USA, May 2014.

Kurtz SM, Lau E, Ong K. Treatment of bias in observational data. 3rd International Congress of Arthroplasty Registries, Boston, MA, USA, May 2014.

Kurtz SM. 1st and 2nd generation HXLPE hip and knee implants: Lessons from retrieval analysis; 44th Annual Meeting of the Japanese Society for Replacement Arthroplasty, Okinawa, Japan, February 2014.

Kurtz SM. Issues of multiple modularity and taper corrosion in metal-on-metal total hip arthroplasty. 44th Annual Meeting of the Japanese Society for Replacement Arthroplasty, Okinawa, Japan, February 2014.

Kurtz SM. Fretting and corrosion: Concerns and reality. EFORT Tribology Symposium, WOA Congress, Beijing, China, November 2013.

Kurtz SM. Are all stem trunnions created equal? Invited speaker, Mini-Symposium: Bearing Surface Options in THR: Where are we today? Dallas, TX, USA, November 2012.

Kurtz SM. Arthroplasty surgery - a global perspective. Invited speaker, 25th Annual Congress of the International Society for Technology in Arthroplasty, Sydney, Australia, October 2012.

Kurtz S, Underwood R. Metal-on-metal hips: Device mechanics and failure modes. Orthopaedic and Rehabilitation Devices Panel Meeting of the Medical Devices Advisory Committee, U.S. Food and Drug Administration, Gaithersburg, MD, USA, June 2012.

Kurtz S. Update on clinical applications and international standards for PEEK. Invited speaker, State

Food and Drug Administration (SFDA), Beijing, China, June 2012.

Kurtz S. Evolution of Polyethylene. Invited speaker, 14th International BIOLOX Symposium. Bearing Surface Options in Total Joint Replacement: The Experts Provide the Evidence. Las Vegas, NV, USA, May 2012.

Kurtz S. What are metal-on-metal retrievals really telling us? Workshop on Metal-Metal Bearings: Facts, Fictions, and Futures. 2012 ORS Annual Meeting, San Francisco, February 2012.

Kurtz S. Current trends and projected utilization of total joint replacements. Spotlight speaker, 2012 ORS Annual Meeting, San Francisco, February 2012.

Kurtz S. Articulation choices update. Invited speaker, Chinese Orthopaedic Association, Beijing, China, December 2011.

Kurtz S. Advances in PEEK Biomaterials for implant applications. Invited speaker, Medical Implants Technology Summit, Shanghai, China, September 2011.

Kurtz S. PEEK: Clinical applications of an international standard biomaterial. Invited speaker, China Medical Devices Information Network Annual Meeting, Beijing, China, January 2011.

Kurtz S. PEEK: A new frontier in structural biomaterials and bone scaffolds. Keynote speaker, Third International Conference on Mechanics of Biomaterials and Tissues, Clearwater, FL, December 2009.

Kurtz, S. UHMWPE implant technology in 2009: State of the art and future directions. Invited speaker, 4th International UHMWPE Meeting, Torino, Italy, September 2009.

Kurtz S. Performance of artificial disc bearings. Symposium on Controversies in Bearing Surface Science, 2009 ORS/AAOS Annual Meeting, Las Vegas, NV, February 2009.

Kurtz S. PEEK Biomaterials: From isoelastic hip stems to bone scaffolds. Symposium on Biological Materials Science, The Minerals, Metals & Material Society, San Francisco, CA, February 2009.

Kurtz S. Utilization in TJA: Something's got to give. Carl T. Brighton Workshop on Health Policy Issues in Orthopaedic Surgery, Tampa, FL, November 2008.

Kurtz S. Retrieval analysis of motion preserving spine implants. Future of Arthroplasty Standards Workshop, American Society for Testing and Materials, St. Louis, MO, November 2008.

Kurtz S. Explant analyses of disc arthroplasties. Symposium on Lessons Learned from Disc Arthroplasty, North American Spine Society, Toronto, Canada, October 2008.

Kurtz S. Implantable PEEK polymer: Properties, processing and applications. 8th World Biomaterials Congress, Amsterdam, the Netherlands, May 2008.

Kurtz S. How have total disc replacements in the spine influenced wear behavior? 2007 AAOS Osteolysis and Implant Wear: Biological, Biomedical Engineering, and Surgical Principles, Austin, TX, November 2007.

Kurtz S. In vivo oxidation and oxidation potential of historical, conventional, and highly crosslinked polyethylene. 3rd UHMWPE International Meeting - Polyethylene in Total Joint Replacement Systems: Concerns and Solutions. Facultad de Medicina, Universidad Autónoma de Madrid, Madrid, Spain, September 2007.

Kurtz S. Overview of the regulatory process and reimbursement for scientist inventors. Coulter

Foundation Early Career Awardees Meeting, Key Biscayne, FL, August 2007.

Kurtz S. Wear and surface damage of total joint replacement components: Lessons of retrieval analysis. Wear Instructional Course, 7th Annual Meeting of the Spine Arthroplasty Society, Berlin, Germany, May 2007.

Kurtz S. Logistics and implementation of a multi-center, regional total hip replacement retrieval program to investigate in vivo oxidation of polyethylene. WG 3 Meeting of COST 537, Porto, Portugal, March 2007.

Kurtz S. Artificial discs. Artificial Discs Workshop, 52nd Annual Meeting of the Orthopaedic Research Society, March 2006.

Kurtz S. A primer on polyethylene. 7th Annual Alternative Bearing Symposium, University of Pennsylvania, PA, October 2004.

Kurtz S. Lessons learned from retrieval analysis of highly crosslinked UHMWPE. 7th Annual Alternative Bearing Symposium, University of Pennsylvania, PA, October 2004.

Kurtz S. Overview of medical device law and regulation. Introduction to food and drug law workshop, food and drug law institute. San Francisco, CA, June 2004.

Kurtz S. Advanced finite element analysis and model validation. ASTM Workshop, Salt Lake City, UT, April 2004.

Kurtz S. The required mechanical properties for hip and knee components. UHMWPE For Arthroplasty: Past, Present, and Future. University of Torino, Torino, Italy, September 2003.

Kurtz S. International perspective of standards development and overview of new miniature specimen mechanical test methods for UHMWPE. 25th Meeting of the European Society for Biomaterials, London, England, September 2001.

Kurtz S. Risk and failure analysis of medical devices. Central Atlantic States Association (CASA) of Food and Drug Officials Annual Medical Device Conference, May 2001.

Kurtz S. Oxidation resistance and shelf life of UHMWPE. New Test Methods for Evaluating the Performance of Conventional and Crosslinked UHMWPE Workshop, F04 Meeting for the American Society for Testing and Materials, May 2001.

Kurtz S. Miniature specimen mechanical testing techniques for UHMWPE used in orthopedic components. Ultra-High Molecular Weight Polyethylene Workshop, 27th Annual Meeting of the Society for Biomaterials, April 2001.

Kurtz S. Morphology and mechanical behavior in UHMWPE after natural and accelerated aging. Polyethylene 2001 Workshop, 46th Annual Meeting of the Orthopaedic Research Society, March 2000.

Kurtz S. The mechanical behavior of UHMWPE at large deformations: Bulk and miniature specimen testing. Department of Mechanical Engineering Seminar, University of Leeds, October 1998.

Kurtz S. Polyethylene properties and contact simulation for total hip arthroplasty. Contact Mechanics Workshop, 43rd Annual Meeting of the Orthopaedic Research Society, February 1997.

Guest Lectures

- University of Tennessee, Memphis, TN

- Cleveland Clinic, Cleveland, OH
- Princeton University, Princeton, NJ
- Temple University, Philadelphia, PA
- Drexel University, Philadelphia, PA
- University of California at Berkeley, Berkeley, CA
- Stanford University, Palo Alto, CA
- University of Zaragoza, Zaragoza, Spain
- University of Madrid, Spain