Stanford



Thomas M. Krummel, MD, FACS/FAAP

Emile Holman Professor, Emeritus

Surgery - Pediatric Surgery

NIH Biosketch available Online

CONTACT INFORMATION

- **Alternate Contact**

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Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Surgery - Pediatric Surgery
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Emile Holman Professor Emeritus (Active), Stanford University School of Medicine, (2019- present)
- Co-Director Emeritus, Stanford Byers Center for Biodesign Program, (2006-2021)
- Director, Surgical Innovation Program, (2004- present)
- Emile Holman Professor, Stanford University School of Medicine, (1999-2019)
- Susan B. Ford Surgeon in Chief, Lucile Packard Children's Hospital, (2002-2016)
- Emile Holman Professor and Chair, Stanford University School of Medicine - Department of Surgery, (1999-2015)
- Program Director, General Surgery Residency Training Program, (2009-2011)
- Director, Stanford Education Institute/ Goodman Simulation Center, (2007-2011)

HONORS AND AWARDS

- Millman Award, Medical College of Wisconsin (1977)
- "Outstanding Member 1977 Graduating Class", Medical College of Wisconsin (1977)
- David M. Hume Resident Research Award, Medical College of Virginia (1979)
- Bigger-Lehman Resident Research Award, Virginia Surgical Society (1981)
- James Ewing Resident Research Award, Society of Surgical Oncology (1981)
- Resident Research Award, American Academy of Pediatrics Surgical Section (1981)

- IA Bigger Medal "Outstanding Chief Resident", Medical College of Virginia (1983)
- Fellowship, American College of Surgeons (1987-1989)
- "Outstanding Young Surgeon", VA Chapter American College of Surgeons (1989)
- Chief Residents' Outstanding Teacher Award, Medical College of Virginia (1990)
- Distinguished Alumni Achievement Award, University of Wisconsin-Parkside (1991)
- Commencement Speaker, University of Wisconsin-Parkside (1991)
- The Thomas V.N. Ballantine Memorial Excellence in Surgical Education Award, Surgical Residents of the Milton S. Hershey Medical Center (1991)
- Traveling Fellowship Award, James IV Association of Surgeons (1996)
- Computerworld Smithsonian Award - Robotically Assisted Microsurgery, Penn State Department of Surgery (1997)
- Computerworld Smithsonian Award - Information Technology and Innovation in Medicine, Penn State Department of Surgery (1999)
- Alumnus of the Year, Marquette Medical Alumni Association - Medical College of Wisconsin (2003)
- Special Congressional Recognition, House of Representatives, USA (2003)
- Best Doctors in America, Best Doctors Corporation (2002-2008)
- Best Doctors, San Francisco Magazine (2003-2005)
- America's Top Doctors, Castle Connolly Medical Ltd (2003-2009)
- The John Austin Collins, MD Memorial Award-Outstanding Teaching and Dedication to Resident Teaching, Department of Surgery at Stanford University (2004)
- Recognition of Service Excellence (ROSE), Lucile Packard Children's Hospital at Stanford (2004)
- The Henry J. Kaiser Family Foundation Award for Excellence in Clinical Teaching, Stanford University School of Medicine (2004)
- International Health Professional of the Year, International Biographical Center (2006)
- Finalist: Franklin G. Ebaugh, Jr. Award, Stanford University School of Medicine (2007)
- Proclamation of Thanks, LPCH Government Relations Department (2007)
- Consultant - Mission reforme C.H.U., French Government (2009)
- Outstanding Achievement in Medicine Award, Santa Clara Country Medical Association (2009)
- Named Among Top 1% of Physicians, US News and World Report (2012)
- Fellow, American Institute for Medical and Biological Engineering (AIMBE) College of Fellows. (2014-present)
- The Golden Scalpel, Stanford University Surgery Residents (2014)
- Shumway Society Achievement Award, Schumway Society (2014)
- Albion Walter Hewlett Award, Stanford University Department of Medicine (November 2014)
- Thomas M. Krummel MD Endowed Chair, Stanford University School of Medicine (May 2015)
- Chief Resident's Award for a Career of Excellence as Chair Stanford Surgery, Stanford University Surgery Residents (June 2015)
- Honorary Doctorate, University of Wisconsin – Parkside (May 2019)
- Commencement Speaker, University of Wisconsin – Parkside (May 2019)
- William E. Ladd Medal, American Academy of Pediatrics (October 2020)

PROFESSIONAL EDUCATION

- Fellowship, Univ. of CA, San Francisco , Fetal Surgery (1985)
- Research Fellowship, Medical College of Virginia , Surgical Research (1980)
- Resident, Children's Hospital, Pittsburgh , Pediatric Surgery (1985)
- Chief Resident in Surgery, Medical College of Virginia , Surgery (1983)

- Internship/Residency, Medical College of Virginia , Medicine (1982)
- M.D., Medical College of Wisconsin , Medicine (1977)
- B.S., University of Wisconsin-Parkside , Chemistry (1973)

COMMUNITY AND INTERNATIONAL WORK

- International Surgical Exchange
- Mission réforme C.H.U., France

LINKS

- Stanford Biodesign website: http://biodesign.stanford.edu
- Stanford Department of Surgery: http://surgery.stanford.edu

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Surgical Innovation, Simulation and Virtual Reality in Surgical Education, Fetal Healing-Cellular and Biochemical Mechanisms

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (PhD Program)
- Biomedical Data Science (PhD Program)

Publications

PUBLICATIONS

- **Disrupting the Fellowship Match: COVID-19 and the Applicant Arms Race.** *Journal of surgical education*
  Swendiman, R. A., Jones, R. E., Blinman, T. A., Krummel, T. n.
  2020
- **Stanford's Biodesign Innovation program: Teaching opportunities for value-driven innovation in surgery.** *Surgery*
  Augustin, D. A., Yock, C. A., Wall, J., Lucian, L., Krummel, T., Pietzsch, J. B., Azagury, D. E.
  2019
- **The Digital Surgeon: How Big Data, Automation, and Artificial Intelligence Will Change Surgical Practice.** *Journal of pediatric surgery*
  Wall, J., Krummel, T.
  2019
- **Presidential Forum.** *Annals of surgery*
  Ellison, E. C., Ponsky, J. L., Harrison, M. R., McGrath, M. H., Angelos, P., Krummel, T. M.
  2019
- **The Rise of Wearable Technology in Health Care** *JAMA NETWORK OPEN*
  Krummel, T. M.
  2019; 2 (2)
- **Preparation for the Diversity of 21st Century Surgical Leadership Opportunities Demands Diverse Opportunities for "Professional Development"** *ANNALS OF SURGERY*
  Melcher, M. L., Greco, R. S., Krummel, T. M., Morris, A. M., Hawn, M. T.
  2018; 268 (6): E52–E53
- **How Good Ideas Die: Understanding Common Pitfalls of Medtech Innovation** *Medical Innovation: Concept to Commercialization*
  Blevins, K. S., Azagury, D. E., Wall, J. K., Chandra, V., Wynne, E. K., Krummel, T. M.

Academic Press.2018; 1st: 117–127

- **How Good Ideas Die: Understanding Common Pitfalls of Medtech Innovation** *MEDICAL INNOVATION: CONCEPT TO COMMERCIALIZATION*
  Blevins, K. S., Azagury, D. E., Wall, J. K., Chandra, V., Wynne, E. K., Krummel, T. M.
  edited by Behrns, K. E., Gingles, B., Sarr, M. G.
  2018: 117–27
- **Three-dimensionally printed surface features to anchor endoluminal spring for distraction enterogenesis.** *PloS one*
  Huynh, N. n., Dubrovsky, G. n., Rouch, J. D., Scott, A. n., Chiang, E. n., Nguyen, T. n., Wu, B. M., Shekherdimian, S. n., Krummel, T. M., Dunn, J. C.
  2018; 13 (7): e0200529
- **Preparation for the Diversity of 21st Century Surgical Leadership Opportunities Demands Diverse Opportunities for "Professional Development".** *Annals of surgery*
  Melcher, M. L., Greco, R. S., Krummel, T. M., Morris, A. M., Hawn, M. T.
  2017
- **Pediatric surgery** *Optimal Resources for Surgical Quality and Safety*
  Chen, L. E., Krummel, T. M., Moss, L., Oldham, K. T., Wandling, M. W.
  American College of Surgeons.2017; 1st: 146–148
- **Ethical Issues in Surgical Innovation** *Ethical Issues in Surgical Care*
  Wall, A. E., Krummel, T. M.
  American College of Surgeons.2017: 207–219
- **Innovation within a university setting** *SURGERY*
  Wynne, E. K., Krummel, T. M.
  2016; 160 (6): 1427-1431
- **Training Physicians in Innovation** *The SAGES Manual Ethics of Surgical Innovation*
  Azagury, D. E., Wall, J. K., Wall, A. E., Krummel, T. M.
  Springer, Cham.2016: 239–247
- **Biodesign process and culture to enable pediatric medical technology innovation** *SEMINARS IN PEDIATRIC SURGERY*
  Wall, J., Wynne, E., Krummel, T.
  2015; 24 (3): 102-106
- **Try again. Fail again. Fail better.** *JOURNAL OF PEDIATRIC SURGERY*
  Krummel, T. M.
  2015; 50 (1): 5-14
- **Surgical Safety Checklists in Ontario, Canada** *NEW ENGLAND JOURNAL OF MEDICINE*
  Weiser, T. G., Krummel, T. M.
  2014; 370 (24): 2349–50
- **Optimal Resources for Children's Surgical Care in the United States** *JOURNAL OF THE AMERICAN COLLEGE OF SURGEONS*
  Abdullah, F., Arca, M. J., Barnhart, D. C., Berger, S., Beyer, K. M., Brandt, M. L., Byrne, D., Cassidy, L., Cavett, C. M., Chen, L. E., Evans, J., Georgeson, K. E., Goldin, et al
  2014; 218 (3): 479-?
- **Firearms, children, and health care professionals.** *Pediatrics*
  Nance, M. L., Oldham, K. T., Krummel, T. M.
  2014; 133 (3): 361-363
- **Forecasting innovation in surgery.** *Annals of surgery*
  Krummel, T. M.
  2014; 260 (2): 212–13
- **Firearm Injuries and Children: A Policy Statement of the American Pediatric Surgical Association** *JOURNAL OF THE AMERICAN COLLEGE OF SURGEONS*
  Nance, M. L., Krummel, T. M., Oldham, K. T.
  2013; 217 (5): 940-946

- **Outcomes from a Postgraduate Biomedical Technology Innovation Training Program: The First 12 Years of Stanford Biodesign** *ANNALS OF BIOMEDICAL ENGINEERING*
  Brinton, T. J., Kurihara, C. Q., Camarillo, D. B., Pietzsch, J. B., Gorodsky, J., Zenios, S. A., Doshi, R., Shen, C., Kumar, U. N., Mairal, A., Watkins, J., Popp, R. L., Wang, et al
  2013; 41 (9): 1803-1810

- **Gastroenterology and Biodesign: Contributing to the Future of Our Specialty** *GASTROENTEROLOGY*
  Nimgaonkar, A., Yock, P. G., Brinton, T. J., Krummel, T., Pasricha, P. J.
  2013; 144 (2): 258-262

- **Nezhat's Video-Assisted and Robotic-Assisted Laparoscopy and Hysteroscopy 4th Edition Foreword 3** *NEZHAT'S VIDEO-ASSISTED AND ROBOTIC-ASSISTED LAPAROSCOPY AND HYSTEROSCOPY, 4TH EDITION*
  Krummel, T. M.
  edited by Nezhat, C., Nezhat, F., Nezhat, C.
  2013: XVII

- **Symbiotic or Parasitic? A Review of the Literature on the Impact of Fellowships on Surgical Residents** *ANNALS OF SURGERY*
  Plerhoples, T. A., Greco, R. S., Krummel, T. M., Melcher, M. L.
  2012; 256 (6): 904-908

- **Submucosal Endoscopic Myotomies for Esophageal Lengthening: A Novel Minimally Invasive Technique with Feasibility Study** *EUROPEAN JOURNAL OF PEDIATRIC SURGERY*
  Wall, J., Perretta, S., Diana, M., Dhumane, P., Haro, J. A., Dallemagne, B., Becmeur, F., Krummel, T., Marescaux, J.
  2012; 22 (3): 217-221

- **Applying a Structured Innovation Process to Interventional Radiology: A Single-Center Experience** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
  Sista, A. K., Hwang, G. L., Hovsepian, D. M., Sze, D. Y., Kuo, W. T., Kothary, N., Louie, J. D., Yamada, K., Hong, R., Dhanani, R., Brinton, T. J., Krummel, T. M., Makower, et al
  2012; 23 (4): 488-494

- **The Goodman Simulation Center at Stanford** *JOURNAL OF SURGICAL EDUCATION*
  Krummel, T., Feaster, S. J.
  2011; 68 (1): 77-78

- **Cost Consciousness and Medical Education** *NEW ENGLAND JOURNAL OF MEDICINE*
  Rivas, H., Morton, J. M., Krummel, T. M.
  2010; 363 (9): 888-889

- **Halsted-Holman vascular trauma legacy** *JOURNAL OF VASCULAR SURGERY*
  Rich, N. M., Krummel, T. M., Burris, D. G.
  2010; 52 (2): 508-511

- **A patient-centered, ethical approach to medical device innovation.** *The virtual mentor : VM*
  Chao, K. Z., Riskin, D. J., Krummel, T. M.
  2010; 12 (2): 91-95

- **Components of Critical Decision Making and ABSITE Assessment: Toward a More Comprehensive Evaluation.** *Journal of graduate medical education*
  Krishnamurthy, S., Satish, U., Foster, T., Streufert, S., Dewan, M., Krummel, T.
  2009; 1 (2): 273-277

- **NOTES and Other Emerging Trends in Gastrointestinal Endoscopy and Surgery: The Change That We Need and the Change That Is Real** *AMERICAN JOURNAL OF GASTROENTEROLOGY*
  Pasricha, P. J., Krummel, T. M.
  2009; 104 (10): 2384-2386

- **Inventing our future: training the next generation of surgeon innovators** *39th Annual Meeting of the American-Pediatric-Surgical-Association*
  Krummel, T. M.
  W B SAUNDERS CO-ELSEVIER INC.2009: 21–35

- **Inside the operating room--balancing the risks and benefits of new surgical procedures: a collection of perspectives and panel discussion.** *Cleveland Clinic journal of medicine*
  Cooper, J. D., Clayman, R. V., Krummel, T. M., Schauer, P. R., Thompson, C., Moreno, J. D.
  2008; 75: S37-48

- **Responsible development and application of surgical innovations: a position statement of the Society of University Surgeons.** *Journal of the American College of Surgeons*
  Biffl, W. L., Spain, D. A., Reitsma, A. M., Minter, R. M., Upperman, J., Wilson, M., Adams, R., Goldman, E. B., Angelos, P., Krummel, T., Greenfield, L. J.
  2008; 206 (3): 1204-1209

- **Simulation-based endovascular skills assessment: The future of credentialing?** *22nd Annual Meeting of the Western-Vascular-Society*
  Tedesco, M. M., Pak, J. J., Harris, E. J., Krummel, T. M., Dalman, R. L., Lee, J. T.
  MOSBY-ELSEVIER.2008: 1008–14

- **Intellectual property and royalty streams in academic departments: Myths and realities** *SURGERY*
  Krummel, T. M., Shafi, B. M., Wall, J., Chandra, V., Mery, C., Gertner, M.
  2008; 143 (2): 183-191

- **Trauma training in simulation: Translating skills from SIM time to real time** *66th Annual Meeting of the American-Association-for-the-Surgery-of-Trauma*
  Knudson, M. M., Khaw, L., Bullard, M. K., Dicker, R., Cohen, M. J., Staudenmayer, K., Sadjadi, J., Howard, S., Gaba, D., Krummel, T.
  LIPPINCOTT WILLIAMS & WILKINS.2008: 255–63

- **Responsible Development and Application of Surgical Innovations: A Position Statement of the Society of University Surgeons** *Journal of American College of Surgeons*
  Biffl WL, Spain DA, Reitsma AM, Minter RM, Upperman J, Wilson M, Adams R, Goldman EB, Angelos P, Krummel TM, Greenfield LJ, The Society of University Surgeons Surgical Innovations Project Team
  2008; 206 (6): 1204-1209

- **ROBOT-ASSISTED LAPAROSCOPY Section 23.1. Computer-Assisted Surgery and Surgical Robotics** *NEZHAT'S OPERATIVE GYNECOLOGIC LAPAROSCOPY AND HYSTEROSCOPY, 3RD EDITION*
  Dutta, S., Krummel, T. M.
  edited by Nezhat, C., Nezhat, F., Nezhat, C.
  2008: 562–66

- **NEZHAT'S OPERATIVE GYNECOLOGIC LAPAROSCOPY AND HYSTEROSCOPY Forewords** *NEZHAT'S OPERATIVE GYNECOLOGIC LAPAROSCOPY AND HYSTEROSCOPY, 3RD EDITION*
  Krummel, T. M., Giudice, L. C., Cohen, C. J., Berek, J. S.
  edited by Nezhat, C., Nezhat, F., Nezhat, C.
  2008: XIII-XV

- **Innovative introduction to surgery in the preclinical years** *AMERICAN JOURNAL OF SURGERY*
  Riboh, J., Curet, M., Krummel, T.
  2007; 194 (2): 227-230

- **Keratinocytes modulate fetal and postnatal fibroblast transforming growth factor-beta and Smad expression in co-culture** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Colwell, A. S., Yun, R., Krummel, T. M., Longaker, M. T., Lorenz, H. P.
  2007; 119 (5): 1440-1445

- **Transforming growth factor-beta, smad, and collagen expression patterns in fetal and adult keratinocytes** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Colwell, A. S., Faudoa, R., Krummel, T. M., Longaker, M. T., Lorenz, H. P.
  2007; 119 (3): 852-857

- **IPEG panel on challenges of medical innovation: Case one** *JOURNAL OF LAPAROENDOSCOPIC & ADVANCED SURGICAL TECHNIQUES*
  Krummel, T. M., Azizkhan, R., Holcomb, G. W., Winslade, W., Ziegler, M. M.
  2007; 17 (1): 64-66

- **IPEG panel on challenges of medical innovation: Introduction** *JOURNAL OF LAPAROENDOSCOPIC & ADVANCED SURGICAL TECHNIQUES*
  Krummel, T. M., Ziegler, M. M.
  2006; 16 (6): 634-638

- **Inventing our future: training the next generation of surgeon innovators.** *Seminars in pediatric surgery*
  Krummel, T. M., Gertner, M., Makower, J., Milroy, C., Gurtner, G., Woo, R., Riskin, D. J., Binyamin, G., Connor, J. A., Mery, C. M., Shafi, B. M., Yock, P. G.
  2006; 15 (4): 309-318

- **What is surgery?** *Seminars in pediatric surgery*
  Krummel, T. M.
  2006; 15 (4): 237-241

- **The ethics of innovation in pediatric surgery.** *Seminars in pediatric surgery*
  Riskin, D. J., Longaker, M. T., Krummel, T. M.
  2006; 15 (4): 319-323

- **The ethics of innovation in pediatric surgery.** *Seminars in pediatric surgery*
  Riskin, D. J., Longaker, M. T., Krummel, T. M.
  2006; 15 (4): 319-323

- **Early-gestation fetal scarless wounds have less lysyl oxidase expression** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Colwell, A. S., Krummel, T. M., Longaker, M. T., Lorenz, H. P.
  2006; 118 (5): 1125-1129

- **Fetal and adult fibroblasts have similar TGF-beta-mediated, Smad-dependent signaling pathways** *90th Annual Clinical Congress of the American-College-of-Surgeons*
  Colwell, A. S., Krummel, T. M., Longaker, M. T., Lorenz, H. P.
  LIPPINCOTT WILLIAMS & WILKINS.2006: 2277–83

- **An in vivo mouse excisional wound model of scarless healing** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Colwell, A. S., Krummel, T. M., Longaker, M. T., Lorenz, H. P.
  2006; 117 (7): 2292-2296

- **To simulate or not to simulate what is the question?** *ANNALS OF SURGERY*
  Dutta, S., Gaba, D., Krummel, T. M.
  2006; 243 (3): 301-303

- **Laparoscopic resection of type 1 choledochal cysts in pediatric patients** *SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES*
  Le, D. M., Woo, R. K., Sylvester, K., Krummel, T. M., Albanese, C. T.
  2006; 20 (2): 249-251

- **Skin wounds in the MRL/MPJ mouse heal with scar** *WOUND REPAIR AND REGENERATION*
  Colwell, A. S., Krummel, T. M., Kong, W., Longaker, M. T., Lorenz, H. P.
  2006; 14 (1): 81-90

- **Simulation: a new frontier in surgical education.** *Advances in surgery*
  Dutta, S., Krummel, T. M.
  2006; 40: 249-263

- **Portal vein thrombosis after laparoscopic splenectomy: an ongoing clinical challenge.** *JSLS : Journal of the Society of Laparoendoscopic Surgeons / Society of Laparoendoscopic Surgeons*
  Miniati, D. N., Padidar, A. M., Kee, S. T., Krummel, T. M., Mallory, B.
  2005; 9 (3): 335-338

- **WNT-4 expression is increased in fibroblasts after TGF-beta1 stimulation and during fetal and postnatal wound repair** *11th International Congress of the International-Society-of-Craniofacial-Surgery*
  Colwell, A., Krummel, T., Longaker, M., Lorenz, H.
  MEDIMOND S R L.2005: 373–374

- **An in vivo mouse excisional wound model of scarless healing** *11th International Congress of the International-Society-of-Craniofacial-Surgery*
  Colwell, A., Krummel, T., Longaker, M., Lorenz, H.
  MEDIMOND S R L.2005: 347–349
- **Differential gene expression between scarless and scarring excisional skin wounds is revealed by microarray analysis** *11th International Congress of the International-Society-of-Craniofacial-Surgery*
  Colwell, A., Longaker, M., Krummel, T., Lorenz, H.
  MEDIMOND S R L.2005: 155–158
- **Early gestation fetal searless wounds have less lysyl oxidase expression** *11th International Congress of the International-Society-of-Craniofacial-Surgery*
  Colwell, A., Krummel, T., Longaker, M., Lorenz, H.
  MEDIMOND S R L.2005: 351–352
- **Stanford University School of Medicine** *ARCHIVES OF SURGERY*
  Mark, J. B., Krummel, T. M.
  2004; 139 (12): 1276-1277
- **Advanced technologies in plastic surgery: How new innovations can improve our training and practice** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Grunwald, T., Krummel, T., Sherman, R.
  2004; 114 (6): 1556-1567
- **Robotic technology in surgery: past, present, and future** *AMERICAN JOURNAL OF SURGERY*
  Camarillo, D. B., Krummel, T. M., Salisbury, J. K.
  2004; 188 (4A): 2S-15S
- **Introduction: robotic surgery today and tomorrow** *AMERICAN JOURNAL OF SURGERY*
  Chitwood, W. R., Krummel, T. M.
  2004; 188 (4A): 1S-1S
- **Robot-assisted pediatric surgery** *AMERICAN JOURNAL OF SURGERY*
  Woo, R., Le, D., Krummel, T. M., Albanese, C.
  2004; 188 (4A): 27S-37S
- **Micro- and Nanoelectromechanical Systems in Medicine and Surgery** *Greco, R (Eds), Nanobiology: Nano Scale Fabrication of New Generation of Biomedical Devices, for publication in 2004*
  Gertner ME, Krummel TM
  2004
- **A framework for probabilistic assessment of new medical technologies** *Joint Meeting of the 7th International Conference on Probabilistic Safety Assessment and Management/European Safety and Reliability Conference*
  Pietzsch, J. B., Pate-Cornell, M. E., Krummel, T. M.
  SPRINGER-VERLAG LONDON LTD.2004: 2224–2229
- **Emergency medicine crisis resource management (EMCRM): Pilot study of a simulation-based crisis management course for emergency medicine** *ACADEMIC EMERGENCY MEDICINE*
  Reznek, M., Smith-Coggins, R., Howard, S., Kiran, K., Harter, P., Sowb, Y., Gaba, D., Krummel, T.
  2003; 10 (4): 386-389
- **Virtual reality applied to procedural testing: The next era** *ANNALS OF SURGERY*
  Bloom, M. B., Rawn, C. L., Salzberg, A. D., Krummel, T. M.
  2003; 237 (3): 442-448
- **Current Problems in Surgical Addvanced Technology** *Current Problems in Surgery*
  Salzberg D, Bloom M, Krummel TM
  2003; 39 (8): 733-832
- **Evaluation of the educational effectiveness of a virtual reality intravenous insertion simulator** *ACADEMIC EMERGENCY MEDICINE*
  Reznek, M. A., Rawn, C. L., Krummel, T. M.

2002; 9 (11): 1319-1325

- **Matrix metalloproteinases and the ontogeny of scarless repair: The other side of the wound healing balance** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Peled, Z. M., Phelps, E. D., Updike, D. L., Chang, J., Krummel, T. M., Howard, E. W., Longaker, M. T.
  2002; 110 (3): 801-811
- **Advanced technology in surgery.** *Current problems in surgery*
  Bloom, M. B., Salzberg, A. D., Krummel, T. M.
  2002; 39 (8): 733-830
- **Microelectrical mechanical systems in surgery and medicine** *JOURNAL OF THE AMERICAN COLLEGE OF SURGEONS*
  Salzberg, A. D., Bloom, M. B., Mourlas, N. J., Krummel, T. M.
  2002; 194 (4): 463-476
- **Virtual reality and simulation: Training the future emergency physician** *ACADEMIC EMERGENCY MEDICINE*
  Reznek, M., Harter, P., Krummel, T.
  2002; 9 (1): 78-87
- **A fast and accurate method of ultrasound probe calibration for image-guided surgery** *16th International Congress and Exhibition on Computer Assisted Radiology and Surgery*
  Welch, J. N., Bax, M., Mori, K., Krummel, T., Shahidi, R., Maurer, C. R.
  SPRINGER-VERLAG BERLIN.2002: 1078–1078
- **Wound Healing** *Zeigler M, Azizkhan R, Weber T (Eds): Pediatric Surgery*
  Krummel TM, Bloom M, Krummel TM
  2002
- **Fetal wound healing: Progress report and future directions** *SURGERY*
  Longaker, N. T., Peled, Z. M., Chang, J., Krummel, T. M.
  2001; 130 (5): 785-787
- **Trocar injuries in laparoscopic surgery** *86th Annual Clinical Congress of the American-College-of-Surgeons*
  Bhoyrul, S., Vierra, M. A., Nezhat, C. R., Krummel, T. M., Way, L. W.
  ELSEVIER SCIENCE INC.2001: 677–83
- **The surgical suite meets the new health economy** *JOURNAL OF THE AMERICAN COLLEGE OF SURGEONS*
  Canales, M. G., Macario, A., Krummel, T.
  2001; 192 (6): 768-776
- **Virtual reality: Surgical application - Challenge for the new millennium** *86th Annual Clinical Congress of the American-College-of-Surgeons*
  Meier, A. H., Rawn, C. L., Krummel, T. M.
  ELSEVIER SCIENCE INC.2001: 372–84
- **The effect of simulator use on learning and self-assessment: The case of Stanford University's E-Pelvis simulator** *Conference on Medicine Meets Virtual Reality 2001*
  Pugh, C. M., Srivastava, S., SHAVELSON, R., Walker, D., Cotner, T., Scarloss, B., Kuo, M., Rawn, C., Dev, P., Krummel, T. H., Heinrichs, L. H.
  I O S PRESS.2001: 396–400
- **Quantifiable real-time 3D ultrasound data acquisition and visualization** *CARS 2001: COMPUTER ASSISTED RADIOLOGY AND SURGERY*
  Welch, J. N., Johnson, J., Badr, R., Bax, M., So, S., Krummel, T., Shahidi, R.
  2001; 1230: 1155-1155
- **The future of medical education is no longer blood and guts, it is bits and bytes** *AMERICAN JOURNAL OF SURGERY*
  Gorman, P. J., Meier, A. H., Rawn, C., Krummel, T. M.
  2000; 180 (5): 353-356
- **Surgical Robotics** *In Harrison, M (ed): Fetal Therapy*
  Bholat OS, Krummel TM
  2000

- **The role of hyaluronan in fetal repair: a review** *Symposium on New Frontiers in Medical Sciences: Redefining Hyaluronan*
  Iocono, J. A., Krummel, T. M.
  ELSEVIER SCIENCE BV.2000: 289–296

- **A new model for training and learning in surgery** *14th International Congress and Exhibition on Computer Assisted Radiology and Surgery (CARS 2000)*
  Gorman, P. J., Meier, A. H., Krummel, T. M.
  ELSEVIER SCIENCE BV.2000: 1–8

- **Computer-assisted training and learning in surgery.** *Computer aided surgery*
  Gorman, P. J., Meier, A. H., Krummel, T. M.
  2000; 5 (2): 120-130

- **A prototype haptic lumbar puncture simulator.** *Studies in health technology and informatics*
  Gorman, P., Krummel, T., Webster, R., Smith, M., Hutchens, D.
  2000; 70: 106-109

- **End user analysis of a force feedback virtual reality based surgical simulator.** *Studies in health technology and informatics*
  Gorman, P. J., Lieser, J. D., Marshall, R. L., Krummel, T. M.
  2000; 70: 102-105

- **Simulation and virtual reality in surgical education - Real or unreal?** *ARCHIVES OF SURGERY*
  Gorman, P. J., Meier, A. H., Krummel, T. M.
  1999; 134 (11): 1203-1208

- **MORTALITY WITH EXTRACORPOREAL MEMBRANE-OXYGENATION FOLLOWING REPAIR OF CONGENITAL DIAPHRAGMATIC-HERNIA IN 93 INFANTS** *JOURNAL OF PEDIATRIC SURGERY*
  Langham, M. R., Krummel, T. M., Bartlett, R. H., DRUCKER, D. E., Tracy, T. F., Toomasian, J. M., Greenfield, L. J., Salzberg, A. M.
  1987; 22 (12): 1150-1154

- **EXTRACORPOREAL MEMBRANE-OXYGENATION FOLLOWING REPAIR OF CONGENITAL DIAPHRAGMATIC-HERNIAS** *ANNALS OF THORACIC SURGERY*
  Langham, M. R., Krummel, T. M., Greenfield, L. J., DRUCKER, D. E., Tracy, T. F., Mueller, D. G., Napolitano, A., Kirkpatrick, B. V., Salzberg, A. M.
  1987; 44 (3): 247-252

- **FETAL RESPONSE TO INJURY IN THE RABBIT** *JOURNAL OF PEDIATRIC SURGERY*
  Krummel, T. M., Nelson, J. M., Diegelmann, R. F., Lindblad, W. J., Salzberg, A. M., Greenfield, L. J., COHEN, I. K.
  1987; 22 (7): 640-644

- **ILEOPROCTOSTOMY WITH J-POUCH - USE OF THE SWENSON PULL-THROUGH FOR RECONSTRUCTION AFTER PROCTOCOLECTOMY FOR ULCERATIVE-COLITIS** *JOURNAL OF PEDIATRIC SURGERY*
  Tracy, T., Krummel, T. M., Salzberg, A. M.
  1986; 21 (7): 576-579

- **ALVEOLAR-ARTERIAL OXYGEN GRADIENTS VERSUS THE NEONATAL PULMONARY-INSUFFICIENCY INDEX FOR PREDICTION OF MORTALITY IN ECMO CANDIDATES** *JOURNAL OF PEDIATRIC SURGERY*
  Krummel, T. M., Greenfield, L. J., Kirkpatrick, B. V., Mueller, D. G., Kerkering, K. W., ORMAZABAL, M., Napolitano, A., Salzberg, A. M.
  1984; 19 (4): 380-384

- **THE EARLY EVALUATION OF SURVIVORS AFTER EXTRACORPOREAL MEMBRANE-OXYGENATION FOR NEONATAL PULMONARY FAILURE** *JOURNAL OF PEDIATRIC SURGERY*
  Krummel, T. M., Greenfield, L. J., Kirkpatrick, B. V., Mueller, D. G., Kerkering, K. W., ORMAZABAL, M., Myer, E. C., Barnes, R. W., Salzberg, A. M.
  1984; 19 (5): 585-590

- **COLITIS CYSTICA PROFUNDA - A PEDIATRIC CASE-REPORT** *JOURNAL OF PEDIATRIC SURGERY*
  Krummel, T. M., Bell, S., KODROFF, M. B., Berman, W. F., Salzberg, A. M.
  1983; 18 (3): 314-315

- **USE OF EXTRACORPOREAL MEMBRANE-OXYGENATION FOR RESPIRATORY-FAILURE IN TERM INFANTS** *PEDIATRICS*
  Kirkpatrick, B. V., Krummel, T. M., Mueller, D. G., ORMAZABAL, M. A., Greenfield, L. J., Salzberg, A. M., CRUTE, S. L.

1983; 72 (6): 872-876

- **CLINICAL USE OF AN EXTRACORPOREAL MEMBRANE-OXYGENATOR IN NEONATAL PULMONARY FAILURE** *JOURNAL OF PEDIATRIC SURGERY*
  Krummel, T. M., Greenfield, L. J., Kirkpatrick, B. V., Mueller, D. G., ORMAZABAL, M., Salzberg, A. M.
  1982; 17 (5): 525-531

- **EXTRACORPOREAL MEMBRANE-OXYGENATION IN NEONATAL PULMONARY FAILURE** *PEDIATRIC ANNALS*
  Krummel, T. M., Greenfield, L. J., Kirkpatrick, B. V., Mueller, D. G., Kerkering, K. W., Salzberg, A. M.
  1982; 11 (11): 905-908