Bio

BIO

Dr. David A. Spain is the David L. Gregg, MD Professor and Chief of Acute Care Surgery. His clinical areas of specialty are emergency and elective general surgery, trauma and critical care. His research focus is assessment of clinical care, systems of care and assessment of stress response and PTSD after trauma. He is the current President-elect of the American Association for the Surgery of Trauma and a Director of the American Board of Surgery. He is the editor of the new textbook Scientific American's Critical Care of the Surgical Patient.

CLINICAL FOCUS

- Critical Care Medicine
- Trauma Surgery
- Splenectomy
- Hernia, Abdominal
- Cholecystectomy, Laparoscopic
- Surgical Critical Care

ACADEMIC APPOINTMENTS

- Professor - Med Center Line, Surgery - General Surgery

ADMINISTRATIVE APPOINTMENTS

- Chief of Trauma and Critical Care Surgery, Stanford University, (2001- present)

HONORS AND AWARDS

- General Surgery Chief Residents Award, Stanford (2018)
- Teaching Award, Stanford/Kaiser Emergency Medicine Residency (2004 and 2008)
- Collins Teaching Award, General Surgery Residency Program (2005)
- General Surgery Chief Residents Award, Stanford (2010)
PROFESSIONAL EDUCATION

• Medical Education: Wayne State University Office of the Registrar (1986) MI
• Board Certification: General Surgery, American Board of Surgery (1993)
• Board Certification: Surgical Critical Care, American Board of Surgery (1996)
• Fellowship: University of Louisville Hospital (1994) KY
• Residency: Robert Wood Johnson University Hospital (1992) NJ
• MD, Wayne State University , Medicine (1986)
• BS/Honors College, Michigan State University , Biochemistry (1982)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our main areas of interest are clinical research in shock, sepsis, multiple organ failure and ICU pneumonia, as well as organizational characteristic of well functioning trauma centers and systems.

We have also developed a robust program in Health Services Research focused on access to specialized, high acuity care and the economic impact of this on the hospital and healthcare system.

We also have an ongoing, multi-centered NIH funded study on "Development of a Risk Factor Screen for Mental Health Problems after Sudden Illness or Injury." This study runs through 2021.

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

• Surgical Critical Care Medicine (Fellowship Program)

Publications

PUBLICATIONS

• Readmission risk and costs of firearm injuries in the United States, 2010-2015. PloS one
Spitzer, S. A., Vail, D., Tennakoon, L., Rajasingh, C., Spain, D. A., Weiser, T. G.
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• The Future of Emergency General Surgery. Annals of surgery
Havens, J. M., Neiman, P. U., Campbell, B. L., Croce, M. A., Spain, D. A., Napolitano, L. M.
2018

• The Economic Footprint of Acute Care Surgery in the United States: Implications for Systems Development. The journal of trauma and acute care surgery
2018

• INTER-HOSPITAL VARIABILITY IN TIME TO DISCHARGE TO REHABILITATION AMONG INSURED TRAUMA PATIENTS. The journal of trauma and acute care surgery
Knowlton, L. M., Harris, A. H., Tennakoon, L., Hawn, M. T., Spain, D. A., Staudenmayer, K. L.
2018

• Letter to the Editor ANNALS OF SURGERY
Spitzer, S. A., Vail, D., Rajasingh, C. M., Tennakoon, L., Spain, D. A., Weiser, T. G.
2018; 268 (6): E77–E78
• Implementing a Standardized Nurse-driven Rounding Protocol in a Trauma-surgical Intensive Care Unit: A Single Institution Experience. Cureus
  2018; 10 (10): e3422

• An Update on the Management of Adult Traumatic Nerve Injuries-Replacing Old Paradigms: A Review. The journal of trauma and acute care surgery
  Smith, B. W., Sakamuri, S., Spain, D. A., Joseph, J. R., Yang, L. J., Wilson, T. J.
  2018

• Operative vs Nonoperative Management of Appendicitis: A Long-Term Cost-Effectiveness Analysis
  ELSEVIER SCIENCE INC.2018: S157–S158

• The association between angiembolization and splenic salvage for isolated splenic injuries. The Journal of surgical research
  2018; 229: 150–55

• Financial Stability of Level I Trauma Centers Within Safety-Net Hospitals. Journal of the American College of Surgeons
  2018

• Surgical deserts in California: an analysis of access to surgical care JOURNAL OF SURGICAL RESEARCH
  2018; 223: 102–8

• Trauma-induced insurance instability: Variation in insurance coverage for patients who experience readmission after injury. The journal of trauma and acute care surgery
  Rajasingh, C. M., Weiser, T. G., Knowlton, L. M., Tennakoon, L., Spain, D. A., Staudenmayer, K. L.
  2018; 84 (6): 876–84

• Letter to the Editor. Annals of surgery
  Spitzer, S. A., Vail, D., Rajasingh, C. M., Tennakoon, L., Spain, D. A., Weiser, T. G.
  2017

• Splenic trauma: WSES classification and guidelines for adult and pediatric patients WORLD JOURNAL OF EMERGENCY SURGERY
  2017; 12: 40

• Real-Time Clinical Decision Support Decreases Inappropriate Plasma Transfusion AMERICAN JOURNAL OF CLINICAL PATHOLOGY
  2017; 148 (2): 154–60

  Forrester, J. D., Weiser, T. G., Maggio, P., Browder, T., Tennakoon, L., Spain, D. A., Staudenmayer, K.

• The trauma ecosystem: The impact and economics of new trauma centers on a mature statewide trauma system. journal of trauma and acute care surgery
  2017; 82 (6): 1014-1022

• The prevalence of psychiatric diagnoses and associated mortality in hospitalized US trauma patients JOURNAL OF SURGICAL RESEARCH
  Townsend, L. L., Esquivel, M. M., Uribe-Leitz, T., Weiser, T. G., Maggio, P. M., Spain, D. A., Tennakoon, L., Staudenmayer, K.
  2017; 213: 171–76

• A geospatial evaluation of timely access to surgical care in seven countries BULLETIN OF THE WORLD HEALTH ORGANIZATION
  2017; 95 (6): 437–44

Development and preliminary performance of a risk factor screen to predict posttraumatic psychological disorder after trauma exposure. *General Hospital Psychiatry*
Carlson, E. B., Palmieri, P. A., Spain, D. A.
2017; 46: 25-31

Population-based estimate of trauma-related deaths for law enforcement personnel: Risks for death are higher and increasing over time. *Journal of Trauma and Acute Care Surgery*
2017

The American College of Surgeons (ACS) Needs-Based Assessment of Trauma Systems (NBATS): Estimates for the State of California. *Journal of Trauma and Acute Care Surgery*
2017

Use of Unsolicited Patient Observations to Identify Surgeons With Increased Risk for Postoperative Complications. *JAMA Surgery*
2017

National Readmission Patterns of Isolated Splenic Injuries Based on Initial Management Strategy. *JAMA Surgery*
Rosenberg, G. M., Knowlton, L., Rajasingh, C., Weng, Y., Maggio, P. M., Spain, D. A., Staudenmayer, K. L.
2017; 152 (12): 1119–25

Trauma advanced practice provider programme development in an academic setting to optimize care coordination. *Trauma Surgery & Acute Care Open*
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Nontraumatic Clostridium septicum Myonecrosis in Adults Case Report and a 15-Year Systematic Literature Review. *Infectious Diseases in Clinical Practice*
Forrester, J. D., Shkolyar, E., Gregg, D., Spain, D. A., Weiser, T. G.
2016; 24 (6): 318–23

International rotations: A valuable source to supplement operative experience for acute care surgery, trauma and surgical critical care fellows. *Journal of Trauma and Acute Care Surgery*
2016; :-?

A Multinational Evaluation of Timely Access to Basic Surgical Services Using Geospatial Analyses
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Trends in open vascular surgery for trauma: implications for the future of acute care surgery. *Journal of Surgical Research*
Forrester, J. D., Weiser, T. G., Maggio, P., Browder, T., Tennakoon, L., Spain, D., Staudenmayer, K.
2016; 205 (1): 208-212

The significance of underlying cardiac comorbidity on major adverse cardiac events after major liver resection. *HPB*
2016; 18 (9): 742-747

Contributions of risk and protective factors to prediction of psychological symptoms after traumatic experiences. *Comprehensive Psychiatry*
2016; 69: 106–15

Trends in the management of pelvic fractures, 2008-2010. *Journal of Surgical Research*
Chu, C. H., Tennakoon, L., Maggio, P. M., Weiser, T. G., Spain, D. A., Staudenmayer, K. L.
2016; 202 (2): 335-340
• The Triage of Injured Patients: Mechanism of Injury, Regardless of Injury Severity, Determines Hospital Destination. *American Surgeon*  
Staudenmayer, K., Wang, N. E., Weiser, T. G., Maggio, P., Mackersie, R. C., Spain, D., Hsia, R. Y.  
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• Trauma center care is associated with reduced readmissions after injury. *Journal of Trauma and Acute Care Surgery*  
Staudenmayer, K., Weiser, T. G., Maggio, P. M., Spain, D. A., Hsia, R. Y.  
2016; 80 (3): 412-418

• Advantages and psychometric validation of proximal intensive assessments of patient-reported outcomes collected in daily life. *Quality of Life Research*  
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• Uninsured status may be more predictive of outcomes among the severely injured than minority race. *Injury-International Journal of the Care of the Injured*  
Gerry, J. M., Weiser, T. G., Spain, D. A., Staudenmayer, K. L.  
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• Small bowel obstruction: A practical step-by-step evidence-based approach to evaluation, decision making, and management. *Journal of Trauma and Acute Care Surgery*  
Azagury, D., Liu, R. C., Morgan, A., Spain, D. A.  
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Elsevier Science Inc. 2015: S94–S95

• Hepato-pancreatectomy: How Morbid? Results from the National Surgical Quality Improvement Project. *HPB*  
Tran, T. B., Dua, M. M., Spain, D. A., Visser, B. C., Norton, J. A., Poultsides, G. A.  
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Carlson, E. B., Spain, D. A., Muhtadie, L., McDade-Montez, L., Macia, K. S.  
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2015; 97 (2): 141-146

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Sweeney, T. E., Salles, A., Harris, O. A., Spain, D. A., Staudenmayer, K. L.  
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Factors Associated With the Disposition of Severely Injured Patients Initially Seen at Non-Trauma Center Emergency Departments Disparities by Insurance Status. *JAMA SURGERY*
2014; 149 (5): 422-430

Factors associated with the disposition of severely injured patients initially seen at non–trauma center emergency departments: disparities by insurance status. *JAMA surgery*
2014; 149 (5): 422-430

Variability in California triage from 2005 to 2009: A population-based longitudinal study of severely injured patients. *Journal of trauma and acute care surgery*
Staudenmayer, K., Lin, F., Mackersie, R., Spain, D., Hsia, R.
2014; 76 (4): 1041-1047

The epidemiology of trauma-related mortality in the United States from 2002 to 2010. *Journal of trauma and acute care surgery*
Sise, R. G., Calvo, R. Y., Spain, D. A., Weiser, T. G., Staudenmayer, K. L.
2014; 76 (4): 911-920

Cost-effectiveness of helicopter versus ground emergency medical services for trauma scene transport in the United States. *Annals of emergency medicine*
2013; 62 (4): 351-364 e19

Cost-effectiveness of helicopter versus ground emergency medical services for trauma scene transport in the United States. *Annals of emergency medicine*
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Cost-effectiveness of preoperative imaging for appendicitis after indeterminate ultrasonography in the second or third trimester of pregnancy. *Obstetrics and gynecology*
2013; 122 (4): 821-829

Triage of elderly trauma patients: a population-based perspective. *Journal of the American College of Surgeons*
Staudenmayer, K. L., Hsia, R. Y., Mann, N. C., Spain, D. A., Newgard, C. D.
2013; 217 (4): 569-576

Logistics of transfusion support for patients with massive hemorrhage. *CURRENT OPINION IN ANESTHESIOLOGY*
Goodnough, L. T., Spain, D. A., Maggio, P.
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Predictors of emergency department death for patients presenting with ruptured abdominal aortic aneurysms. *JOURNAL OF VASCULAR SURGERY*
2012; 56 (3): 651-655

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• Payer status is associated with the use of prophylactic inferior vena cava filter in high-risk trauma patients. *SURGERY*
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• Outcomes of Complex Abdominal Herniorrhaphy Experience With 106 Cases. *ANNALS OF PLASTIC SURGERY*
  Satterwhite, T. S., Miri, S., Chung, C., Spain, D., Lorenz, H. P., Lee, G. K.
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  Satterwhite, T. S., Miri, S., Chung, C., Spain, D. A., Lorenz, H. P., Lee, G. K.
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• The forgotten trauma patient: Outcomes for injured patients evaluated by emergency medical services but not transported to the hospital. *JOURNAL OF TRAUMA AND ACUTE CARE SURGERY*
  Staudenmayer, K., Hsia, R., Wang, E., Sporer, K., Ghilarducci, D., Spain, D., Mackersie, R., Sherck, J., Kline, R., Newgard, C.
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• Under-Utilization of Transfer for Ruptured Abdominal Aortic Aneurysm (rAAA) in the Western United States
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• Development and Validation of a Brief Self-Report Measure of Trauma Exposure: The Trauma History Screen. *PSYCHOLOGICAL ASSESSMENT*
  2011; 23 (2): 463-477

• Characteristics of Pediatric Trauma Transfers to a Level I Trauma Center: Implications for Developing a Regionalized Pediatric Trauma System in California. *ACADEMIC EMERGENCY MEDICINE*
  2010; 17 (12): 1364-1373

• Early outcomes of deliberate nonoperative management for blunt thoracic aortic injury in trauma. *JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY*
  Caffarelli, A. D., Mallidi, H. R., Maggio, P. M., Spain, D. A., Miller, D. C., Mitchell, R. S.
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• Training and Certification in Surgical Critical Care: A Position Paper by the Surgical Critical Care Program Directors Society. *JOURNAL OF TRAUMA-INJURY INFECTION AND CRITICAL CARE*
  2010; 69 (2): 471-474

• Demographic and Financial Analysis of EMTALA Hand Patient Transfers. *Hand (New York, N.Y.)*
  Melkun, E. T., Ford, C., Brundage, S. I., Spain, D. A., Chang, J.
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• Emergency Innovation: Implications for the Trauma Surgeon. *JOURNAL OF TRAUMA-INJURY INFECTION AND CRITICAL CARE*
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  Riskin, D. J., Tsai, T. C., Riskin, L., Hernandez-Boussard, T., Purcell, M., Maggio, P. M., Spain, D. A., Brundage, S. I.
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• The impact of hypopituitarism on function and performance in subjects with recent history of traumatic brain injury and aneurysmal subarachnoid haemorrhage. *Brain injury*


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• Venous air embolism and pressure infusion devices JOURNAL OF TRAUMA-INJURY INFECTION AND CRITICAL CARE Mendenhall, M. L., Spain, D. A. 2007; 63 (1): 246-246

• Recruitment strategies for a fall prevention program: If we build it, will they really come? 36th Annual Meeting of the Western-Trauma-Association Shandro, J. R., Spain, D. A., Dicker, R. A. LIPPINCOTT WILLIAMS & WILKINS.2007: 142–46

• Early enteral nutrition after abdominal trauma: effects on septic morbidity and practicality. *Nutrition in clinical practice*
  Weissenfluh, G. M., Brundage, S. I., Spain, D. A.
  2006; 21 (5): 479-484

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  Lebl, D. R., Dicker, R. A., Spain, D. A., Brundage, S. I.
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• Endovascular management of a gunshot wound to the thoracic aorta *35th Annual Meeting of the Western-Trauma-Association*
  LIPPINCOTT WILLIAMS & WILKINS. 2006: 204–8

• Are temporary inferior vena cava filters really temporary? *57th Annual Meeting of the Southwestern-Surgical-Congress*
  EXCERPTA MEDICA INC-ELSEVIER SCIENCE INC. 2005: 858–63

• Spontaneous splenic rupture: The masquerade of minor trauma *35th Annual Meeting of the Western-Trauma-Association*
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  LIPPINCOTT WILLIAMS & WILKINS. 2005: 1228–30

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  2005; 200 (6): 946-953

• Acute care surgery: Trauma, critical care, and emergency surgery *JOURNAL OF TRAUMA-INJURY INFECTION AND CRITICAL CARE*
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• Management of acute complete tracheal transection caused by nonpenetrating trauma: Report of a case and review of the literature *JOURNAL OF CARDIOTHORACIC AND VASCULAR ANESTHESIA*
  Chow, J. L., Coady, M. A., Varner, J., Cannon, W., Spain, D., Brock-Utne, J. G.

• Perioperative risk assessment in elderly and high-risk patients *International Symposium on World Overview of Important Nutrition Problems and How They are Being Addressed*
  ELSEVIER SCIENCE INC. 2004: 133–46

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  Cheadle, W. G., Spain, D. A.
• The continuing challenge of intra-abdominal infection 27th Annual Surgical Symposium of the Association-of-VA-Surgeons
Cheadle, W. G., Spain, D. A.
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• Immune-enhancing enteral diet selectively augments ileal blood flow in the rat Annual Meeting of the Association-of-VA-Surgeons
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2002; 82 (1): 49-7

**Handsown versus stapled anastomosis in penetrating colon injuries requiring resection: A multicenter study** *JOURNAL OF TRAUMA-INJURY INFECTION AND CRITICAL CARE*
2002; 52 (1): 117-121

**Development and implementation of a clinical pathway for severe traumatic brain injury** *JOURNAL OF TRAUMA-INJURY INFECTION AND CRITICAL CARE*
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Zhao, H. L., Spain, D. A., Matheson, P. J., Harris, P. D., Garrison, R. N.
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**Development and implementation of a clinical pathway for spinal cord injuries** *49th Annual Meeting of the Congress of Neurological Surgeons*
Vitaz, T. W., McIlvoy, L., Raque, G. H., Spain, D. A., Shields, C. B.
LIPPINCOTT WILLIAMS & WILKINS. 2001: 271–76

**Impact of recent trends of noninvasive trauma evaluation and nonoperative management in surgical resident education** *60th Annual Meeting of the American-Association-for-the-Surgery-of-Trauma*
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**Penetrating colon injuries requiring resection: Diversion or primary anastomosis? An AAST prospective multicenter study** *60th Annual Meeting of the American-Association-for-the-Surgery-of-Trauma*
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**Successful incorporation of the Severe Head Injury Guidelines into a phased-outcome clinical pathway.** *journal of neuroscience nursing*
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