





## Jamshid Ghajar

Clinical Professor, Neurosurgery

 Curriculum Vitae available Online

 Resume available Online

### CLINICAL OFFICES

- **Stanford Neuroscience Health Center**

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### Bio

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#### BIO

Jamshid Ghajar MD, PhD, FACS, is a board certified neurosurgeon, Clinical Professor of Neurosurgery, Director of the Stanford Concussion and Brain Performance Center and President of the Brain Trauma Foundation in New York City and Palo Alto.

He completed the MD/PhD program at Cornell University Medical College. During his residency training in neurosurgery at New York Presbyterian Hospital, he invented and patented several neurosurgical devices that are currently used worldwide. After residency, he joined the faculty at the New York Presbyterian Hospital-Cornell Medical Center and was a founder of the Brain Trauma Foundation (BTF) in 1986. The mission of the BTF is to improve the outcome of patients with traumatic brain injury (TBI). He joined the neurosurgery faculty at Stanford in February 2014.

Learn more about the Stanford Concussion and Brain Performance Center: <http://med.stanford.edu/braincenter.html>.

#### CLINICAL FOCUS

- Neurosurgery
- Concussion, traumatic brain injury

#### ACADEMIC APPOINTMENTS

- Clinical Professor, Neurosurgery

#### ADMINISTRATIVE APPOINTMENTS

- Clinical Professor of Neurological Surgery, Weill Cornell Medical College, (2003-2014)
- Chief of Neurosurgery, The Jamaica Hospital-Cornell Trauma Center. New York, (1989-2014)
- President, Brain Trauma Foundation, (1995- present)
- Clinical Professor of Neurosurgery, Stanford University Medical School, (2014- present)
- Director, Stanford Concussion and Brain Performance Center, (2014- present)

## HONORS AND AWARDS

- Honorary Police Surgeon, New York Police Department (2007-2014)
- Ellis Island Award, Ellis Island Award Committee (2013)
- American Iranian Council Award, American Iranian Council (2001)

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Committee on Trauma, American College of Surgeons (2012 - present)

## PROFESSIONAL EDUCATION

- Residency: New York Presbyterian Cornell Campus Neurosurgery Residency (1987) NY
- Residency: New York Presbyterian Cornell Campus Neurology Residency (1983) NY
- Internship: New York Presbyterian Cornell Campus General Surgery Residency (1982) NY
- Medical Education: Cornell University School of Medicine Registrar (1981) NY
- Board Certification: Neurosurgery, American Board of Neurological Surgery (1993)

## COMMUNITY AND INTERNATIONAL WORK

- Brain Trauma Foundation, New York and Palo Alto

## PATENTS

- Jamshid Ghajar. "United States Patent 7,849,525 Apparatus for Reducing Brain and Cervical Spine Injury due to Rotational Movement", G-Brace, Dec 14, 2010
- Jamshid Ghajar. "United States Patent 7,819,818 Cognition and Motor Timing Diagnosis Using Smooth Eye Pursuit Analysis", SyncThink, Oct 26, 2010
- Jamshid Ghajar. "United States Patent 7,708,700 Method for Improving Cognition and Motor Timing", SyncThink, May 4, 2010
- Jamshid Ghajar. "United States Patent 7,384,399 Cognition and Motor Timing Diagnosis and Training System and Method", SyncThink, Jun 8, 2008

## LINKS

- Brain Trauma Foundation: <http://www.braintrauma.org>
- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Principal Investigator,

"Concussion Definition Consortium – An Evidence Based Project". Department of Defense. There are over 40 definitions of concussion but none are evidence based- i.e. come from well done studies. We will extract the most salient data from well run studies that are designed to give us a "snapshot" of what concussion is.

Principal Investigator,

"Multi-Dimensional Model for Brain Trauma". The goal is to develop a dynamic model for concussion, validate it on a retrospective dataset, and design a second study to validate it on a prospective dataset. Department of Defense.

Principal Investigator,

"EYE-TRAC Advance". Testing 10,000 subjects with normal and post concussive eye tracking. Military and civilian athletes are included. Department of Defense.

Principal Investigator,

B-TEC (Brain Trauma Evidence-based Consortium). Combines Stanford B-TEC clinical trials coordinating center with the Brain Trauma Foundation's B-TEC evidence-based center to promote and coordinate an evidence-based approach to the spectrum of brain trauma from concussion to coma.

## Publications

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### PUBLICATIONS

- **A management algorithm for patients with intracranial pressure monitoring: the Seattle International Severe Traumatic Brain Injury Consensus Conference (SIBICC).** *Intensive care medicine*  
Hawryluk, G. W., Aguilera, S., Buki, A., Bulger, E., Citerio, G., Cooper, D. J., Arrastia, R. D., Diring, M., Figaji, A., Gao, G., Geocadin, R., Ghajar, J., Harris, et al  
2019
- **Concussion Guidelines Step 2: Evidence for Subtype Classification.** *Neurosurgery*  
Lumba-Brown, A., Teramoto, M., Bloom, O. J., Brody, D., Chesnutt, J., Clugston, J. R., Collins, M., Gioia, G., Kontos, A., Lal, A., Sills, A., Ghajar, J.  
2019
- **Disrupted White Matter Microstructure of the Cerebellar Peduncles in Scholastic Athletes After Concussion** *FRONTIERS IN NEUROLOGY*  
Mallott, J. M., Palacios, E. M., Maruta, J., Ghajar, J., Mukherjee, P.  
2019; 10
- **Hypertonic Saline is Superior to Mannitol for the Combined Effect on Intracranial Pressure and Cerebral Perfusion Pressure Burdens in Patients With Severe Traumatic Brain Injury.** *Neurosurgery*  
Mangat, H. S., Wu, X., Gerber, L. M., Schwarz, J. T., Fakhar, M., Murthy, S. B., Stieg, P. E., Ghajar, J., Hartl, R.  
2019
- **Concussion Subtype Identification With the Rivermead Post-concussion Symptoms Questionnaire** *FRONTIERS IN NEUROLOGY*  
Maruta, J., Lumba-Brown, A., Ghajar, J.  
2018; 9
- **Association of Visual Tracking Metrics With Post-concussion Symptomatology** *FRONTIERS IN NEUROLOGY*  
Maruta, J., Spielman, L. A., Rajashekar, U., Ghajar, J.  
2018; 9
- **Establishing Evidence for Concussion Subtypes**  
Lumba-Brown, A., Lal, A., Collins, M., Kontos, A., Gioia, G., Bloom, J., Chesnutt, J., Clugston, J., Sills, A., Brody, D., Ghajar, J.  
LIPPINCOTT WILLIAMS & WILKINS.2018: E106
- **Concussion Subtype Identification With the Rivermead Post-concussion Symptoms Questionnaire.** *Frontiers in neurology*  
Maruta, J., Lumba-Brown, A., Ghajar, J.  
2018; 9: 1034
- **Mild traumatic brain injury and concussion: terminology and classification.** *Handbook of clinical neurology*  
Sussman, E. S., Pendharkar, A. V., Ho, A. L., Ghajar, J.  
2018; 158: 21–24
- **Association of Visual Tracking Metrics With Post-concussion Symptomatology.** *Frontiers in neurology*  
Maruta, J., Spielman, L. A., Rajashekar, U., Ghajar, J.  
2018; 9: 611
- **Visual Tracking in Development and Aging** *FRONTIERS IN NEUROLOGY*  
Maruta, J., Spielman, L. A., Rajashekar, U., Ghajar, J.  
2017; 8: 640
- **The Effect of Physical Exercise After a Concussion: A Systematic Review and Meta-analysis.** *American journal of sports medicine*  
Lal, A., Kolakowsky-Hayner, S. A., Ghajar, J., Balamane, M.  
2017: 363546517706137-?

- **In Reply: Guidelines for the Management of Severe Traumatic Brain Injury, Fourth Edition.** *Neurosurgery*  
Hawryluk, G. W., Ullman, J. S., Totten, A. M., Ghajar, J.  
2017
- **Frequency Responses to Visual Tracking Stimuli May Be Affected by Concussion** *MILITARY MEDICINE*  
Maruta, J., Jaw, E., Modera, P., Rajashekar, U., Spielman, L. A., Ghajar, J.  
2017; 182: 120-123
- **Guidelines for the Management of Severe Traumatic Brain Injury, Fourth Edition.** *Neurosurgery*  
Carney, N., Totten, A. M., O'Reilly, C., Ullman, J. S., Hawryluk, G. W., Bell, M. J., Bratton, S. L., Chesnut, R., Harris, O. A., Kisson, N., Rubiano, A. M., Shutter, L., Tasker, et al  
2016: -?
- **Degradation of Binocular Coordination during Sleep Deprivation** *FRONTIERS IN NEUROLOGY*  
Tong, J., Maruta, J., Heaton, K. J., Maule, A. L., Rajashekar, U., Spielman, L. A., Ghajar, J.  
2016; 7
- **Clinical evaluation of concussion: the evolving role of oculomotor assessments** *NEUROSURGICAL FOCUS*  
Sussman, E. S., Ho, A. L., Pendharkar, A. V., Ghajar, J.  
2016; 40 (4)
- **Executive summary of concussion guidelines step 1: systematic review of prevalent indicators.** *Neurosurgery*  
Carney, N., Ghajar, J., Jagoda, A., Bedrick, S., Davis-O'Reilly, C., du Coudray, H., Hack, D., Helfand, N., Huddleston, A., Nettleton, T., Riggio, S.  
2014; 75: S1-2
- **Concussion guidelines step 1: systematic review of prevalent indicators.** *Neurosurgery*  
Carney, N., Ghajar, J., Jagoda, A., Bedrick, S., Davis-O'Reilly, C., du Coudray, H., Hack, D., Helfand, N., Huddleston, A., Nettleton, T., Riggio, S.  
2014; 75: S3-S15
- **Possible Medication-Resistant Deficits in Adult ADHD.** *Journal of attention disorders*  
Maruta, J., Spielman, L. A., Tseretopoulos, I. D., Hezghia, A., Ghajar, J.  
2014
- **Predictive Visual Tracking: Specificity in Mild Traumatic Brain Injury and Sleep Deprivation** *MILITARY MEDICINE*  
Maruta, J., Heaton, K. J., Mau, A. L., Ghajar, J.  
2014; 179 (6): 619-625
- **Detecting eye movement abnormalities from concussion.** *Progress in neurological surgery*  
Maruta, J., Ghajar, J.  
2014; 28: 226-233
- **Age-specific cerebral perfusion pressure thresholds and survival in children and adolescents with severe traumatic brain injury\*.** *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies*  
Allen, B. B., Chiu, Y. L., Gerber, L. M., Ghajar, J., Greenfield, J. P.  
2014; 15 (1): 62-70
- **Individual Differences in Distinct Components of Attention are Linked to Anatomical Variations in Distinct White Matter Tracts.** *Frontiers in neuroanatomy*  
Niogi, S., Mukherjee, P., Ghajar, J., McCandliss, B. D.  
2010; 4: 2-?
- **The predictive brain state: asynchrony in disorders of attention?** *The Neuroscientist : a review journal bringing neurobiology, neurology and psychiatry*  
Ghajar, J., Ivry, R. B.  
2009; 15 (3): 232-42
- **Structural dissociation of attentional control and memory in adults with and without mild traumatic brain injury** *BRAIN*  
Niogi, S. N., Mukherjee, P., Ghajar, J., Johnson, C. E., Kolster, R., Lee, H., Suh, M., Zimmerman, R. D., Manley, G. T., McCandliss, B. D.  
2008; 131: 3209-3221
- **Increased oculomotor deficits during target blanking as an indicator of mild traumatic brain injury.** *Neuroscience letters*

- Suh, M., Basu, S., Kolster, R., Sarkar, R., McCandliss, B., Ghajar, J.  
2006; 410 (3): 203–7
- **Deficits in predictive smooth pursuit after mild traumatic brain injury.** *Neuroscience letters*  
Suh, M., Kolster, R., Sarkar, R., McCandliss, B., Ghajar, J.  
2006; 401 (1-2): 108–13
  - **Increasing Adherence to Brain Trauma Foundation Guidelines for Hospital Care of Patients With Traumatic Brain Injury** *CRITICAL CARE NURSE*  
Saherwala, A. A., Bader, M., Stutzman, S. E., Figueroa, S. A., Ghajar, J., Gorman, A. R., Minhajuddin, A., Olson, D. M.  
2018; 38 (1): E11–E20
  - **Living Guideline Development in Traumatic Brain Injury: Opportunities to Link Quality of Care, Research, and Better Patient Outcomes to a Future Research Agenda**  
Kolakowsky-Hayner, S. A., Totten, A. M., Assasnik, S., Balamane, M., Ghajar, J.  
LIPPINCOTT WILLIAMS & WILKINS.2017: E85–E86
  - **Chronic Post-Concussion Neurocognitive Deficits. II. Relationship with Persistent Symptoms** *FRONTIERS IN HUMAN NEUROSCIENCE*  
Maruta, J., Spielman, L. A., Yarusi, B. B., Wang, Y., Silver, J. M., Ghajar, J.  
2016; 10
  - **Chronic Post-Concussion Neurocognitive Deficits. I. Relationship with White Matter Integrity** *FRONTIERS IN HUMAN NEUROSCIENCE*  
Maruta, J., Palacios, E. M., Zimmerman, R. D., Ghajar, J., Mukherjee, P.  
2016; 10
  - **Filling in the gaps: Anticipatory control of eye movements in chronic mild traumatic brain injury** *NEUROIMAGE-CLINICAL*  
Diwakar, M., Harrington, D. L., Maruta, J., Ghajar, J., El-Gabalawy, F., Muzzatti, L., Corbetta, M., Huang, M., Lee, R. R.  
2015; 8: 210-223
  - **Impact of falls on early mortality from severe traumatic brain injury.** *Journal of trauma management & outcomes*  
Gerber, L. M., Ni, Q., Härtl, R., Ghajar, J.  
2009; 3: 9-?