

# Dr. Babak Babakhani, MD, BC, Ph.D.

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## **HIGHLIGHTS OF PROFICIENCIES**

Dr. Babak Babakhani is a distinguished Anesthesiology and Pain Management Specialist with a remarkable 20-year career marked by pioneering expertise and clinical excellence. His unmatched proficiencies in pain management are bolstered by extensive clinical experience, specialized fellowships, and a profound commitment to elevating patient care. Proficient in state-of-the-art techniques like ultrasound-guided peripheral nerve blocks, laser-assisted nucleoplasty, and full endoscopic spinal procedures, Dr. Babakhani's leadership in pain clinics, global collaborations, and impactful research underscores his widespread influence.

His completion of a prestigious Pain Management Fellowship at the International Neuroscience Institute Hannover has equipped Dr. Babakhani with a distinctive skill set that transcends conventional pain management. Additional fellowships in neuro anesthesiology and neurocritical care ensure comprehensive neurological monitoring for optimal patient outcomes. As active Assistant Professor, he remains dedicated to medical education and mentorship. His clinical acumen, groundbreaking research, and global recognition position Dr. Babakhani as a formidable advocate for advanced pain management and improved patient quality of life. Dr Babakhani is also registered and licensed specialist in pain medicine and anesthesiology with Dubai HealthAuthority (DHA).

## **EXPERTISE IN ADVANCED TECHNIQUES**

- Ultrasound-guided peripheral nerve blocks
- C-Arm guided sympathetic ganglion blocks and neurolysis
- Ablative and non-ablative C-Arm guided procedures for Gasserian and Sphenopalatine ganglions, Glossopharyngeal nerve and TMJ
- Diagnostic and therapeutic PRT, MBB, SI joint procedures
- Epiduroplasty, Epidural Adhesiolysis and epiduroscopy
- Intradiscal procedures: laser-assisted nucleoplasty and microdiscectomy (cervical, thoracic and lumbar)
- Full endoscopic spinal procedures (trans-foraminal and inter-laminar)
- Implantable epidural and intrathecal devices: intrathecal pumps, spinal cord stimulation devices

- Perioperative Neurological Monitoring | Trans-esophageal Echocardiography
- Advanced Airway Management | Neuraxial Anesthesia | General Anesthesia
- Infusion therapy for Psychiatric and Chronic Pain States (Ketamine, Propofol, Dexmedetomidine)
- Critically Ill Patient Monitoring with Specialization in Nervous System Care
- Expertise in Central Vein Catheter Establishment and Drug Delivery

## PROFESSIONAL EXPERIENCE

POSITION	INSTITUTION/CITY	YEAR
Registered Pain Specialist	DHA, Dubai, UAE	2024
Licensed Anesthesiologist	DHA, Dubai, UAE	2024
Director of Pain Clinic	Niavaran Clinic, Tehran, Iran	2019- Present
Deputy of Health Management	Brain and Spinal Cord Injury Research Centre, Neuroscience Institute, Tehran University of Medical Sciences (TUMS), Tehran	2019-2021
Head of Office	International collaboration between TUMS and Iraqi Kurdistan, Tehran	2019-2021
Assistant Professor	Brain and Spinal Cord Injury Research Centre, Neuroscience Institute, Tehran	2017-Present
Hands On Clinical Fellowship, Neuroanesthesiology and Neurocritical Care	Academic Hospital of Nordstadt Klinikum, Medical School of Hannover, Hannover, Germany	2015-2016
Hands On Clinical Fellowship, Pain Management	International Neuroscience Institute Hannover, Germany	2013-2015
Assistant Professor	Department of Anesthesiology, Zahedan University of Medical Sciences (ZUMS), Zahedan	2010-2012
Anesthesiologist	Pain Clinic, ZUMS, Zahedan	2010-2012
Manager of Residency Program	Department of Anesthesiology, ZUMS, Zahedan	2010
Organizer/Anesthesiologist	Pain Clinic, Emam Hossein Hospital, Shahroud University of Medical Sciences (SUMS), Shahroud	2009-2010
Director of ICU	Fatemieh Hospital, SUMS, Shahroud	2009-2010
Manager of ORs and Ward	Fatemieh Hospital, SUMS, Shahroud	2009-2010

Manager	Primary Health Care Clinic, Mahabad Health and Treatment Network, Mahabad	2002-2004
Organizer	Integrated Management of Pediatric Diseases, Mahabad Health and Treatment Network, Mahabad	2003-2004

## EDUCATION

DEGREE/CERTIFICATE	INSTITUTION/CITY	YEAR
<b>General Practitioner (MD)</b> <i>Thesis: The effective doses of protoscolices for induction of hydatid cyst disease in mice</i>	Orumieh University of Medical Sciences	1995-2002
<b>Anesthesiology Specialist (Board Certified)</b> <i>Thesis: The effect of ilioinguinal-ilioinginal and intercostal nerves co-blockade on pain reduction after kidney transplantation in kidney recipients (Clinical trial study)</i>	Tehran University of Medical Sciences Shariati Hospital	2005-2009
<b>PhD of Clinical Neuroscience</b> <i>Thesis: Perioperative Neuromonitoring and Neuroprotection</i>	Joint program/degree provided by International Neuroscience Institute Hannover and TUMS	2012-2014
<b>Fellowship, Pain Management</b>	International Neuroscience Institute Hannover, Germany and Tehran University of Medical Sciences	2013-2015
<b>Fellowship, Neuroanesthesiology and Neurocritical Care</b>	Academic Hospital of Nordstadt Klinikum- Medical School of Hannover Hannover- Germany	2015-2016

## WORKSHOPS AND CERTIFICATES

1. Hands-on workshop "Percutaneous Dilational Tracheostomy". Nordstadt Academic Hospital, Hannover, Germany, 2014
2. 19<sup>th</sup> Fiberoptic Bronchoscopy Course "Advanced airway management". Nordstadt Academic Hospital, Hannover, Germany, November 2014
3. 19<sup>th</sup> Pain Conference & Practical Workshop, Budapest, Hungary, 2014
4. Hands-on clinical workshop "Sonography guided upper extremity blocks- advanced course". 5<sup>th</sup> World Anesthesia Convention Networking (NWAC), Vienna, Austria, 2014
5. Hands-on clinical workshop "Sonography guided lower extremity blocks- advanced course". 5<sup>th</sup> World Anesthesia Convention Networking (NWAC), Vienna, Austria, 2014
6. Hands-on clinical workshop "Sonography guided chronic pain blocks- basic and advanced course". 5<sup>th</sup> World Anesthesia Convention Networking (NWAC), Vienna, Austria, 2014

7. Hands-on practical cadaver workshop of pain, 19<sup>th</sup> annual advanced pain conference and practical workshop, world institute of pain (WIP), Budapest, Hungary, 2014
8. Hands-on clinical workshop of "Sonography guided regional anesthesia in children". 33rd Annual European Society of Regional Anaesthesia & Pain Therapy Congress, Seville, Spain, 2014
9. Hands-on cadaver workshop of "Chronic Pain". 33rd Annual European Society of Regional Anaesthesia & Pain Therapy Congress, Seville, Spain, 2014
10. Enduring material workshop of "Clinical Electroencephalography for the Anesthesiologist 1&2". Partners HealthCare Continuing Medical Education (ACCME), 2014
11. Hands-on clinical workshop of "Trans esophageal echocardiography". 7<sup>th</sup> Hannover course of TEE in Anesthesiology certified by German Society of Anesthesiology and Intensive Care. Medical School of Hannover, Hannover, Germany, 2014.
12. Hands-on clinical workshop of Basics of Sonography". Course of Anesthesia Focused Sonography by Medical School of Hannover- Certified by German Society of Anesthesiology and Intensive Care. Medical School of Hannover, Hannover, Germany, 2015.
13. Hands-on clinical workshop of "Vascular Sonography". Course of Anesthesia Focused Sonography by Medical School of Hannover- Certified by German Society of Anesthesiology and Intensive Care. Medical School of Hannover, Hannover, Germany, 2015.
14. Hands-on clinical workshop "Sonography guided Regional Anesthesia". Course of Anesthesia Focused Sonography by Medical School of Hannover- Certified by German Society of Anesthesiology and Intensive Care. Medical School of Hannover, Hannover, Germany, 2015.
15. Hands-on clinical workshop "Cardiac Sonography". Course of Anesthesia Focused Sonography by Medical School of Hannover- Certified by German Society of Anesthesiology and Intensive Care. Medical School of Hannover, Hannover, Germany, 2015.
16. Hands-on clinical workshop "Thoraco-abdominal Sonography". Course of Anesthesia Focused Sonography by Medical High School of Hannover- Certified by German Society of Anesthesiology and Intensive Care. Medical School of Hannover, Hannover, Germany, 2015.
17. Diploma of Cardiac Sonography, Medical University of Vienna, Austria, (in progress)
18. Training course of "Full Endoscopic Spine Surgery". Centre for Spine Surgery and Pain Therapy, Herne, Dusseldorf, Germany, 2019.

## PUBLICATIONS

1. Shoeibi G, **Babakhani B**, Mohammadi SS. The efficacy of ilioinguinal-iliohypogastric and intercostal nerve co-blockade for postoperative pain relief in kidney recipients. *Anesth Analg*. 2009; 108(1):330-3.
2. Borojeny SB, Tabatabai NH, **Babakhani B**, Babakhani S, Moody Z. The effect of electroconvulsive therapy using propofol and succinylcholine on the intraocular pressure. *Middle East J Anaesthesiol*. 2012 ;21(5):713-7.
3. Hosseini Tabatabaei N, **Babakhani B**, Hosseini Tabatabaei A, Vahabi Z, Soltanzadeh A. Non-genetic factors associated with the risk of Parkinson's disease in Iranian patients. *Funct Neurol* 2013; 28:107-13.
4. **Babakhani B**, Schott M, Hosseini Tabatabaei, B.Tautz B, Heroabadi A, Jantzen JP. Effect of prone position on cerebral oxygenation in anesthetized patients- a prospective study. *Journal für Anästhesie und Intensivbehandlung* 2014; 1:135-6.

5. **Babakhani B**, Schott M, Hosseini Tabatabaei, B.Tautz B, Heroabadi A, Jantzen JP. Prone positioning and cerebral oxygenation in anesthetized patients. *Minerva Medica* 2014; 105 (Suppl. 1):29-30.
6. **Babakhani B**, Abbasian MR, Hosseinitabatabaei N, Mokarram M, Yousefi J, Dizangian A, Siatiri N. The effects of intra-articular injection of marcaine on post aspiration pain of knees with osteoarthritis. *Ir J Res Med* 2014; 37:195-9.
7. **Babakhani B**, Abbasian M, Hosseinitabatabaei N. Intra-articular bupivacaine can reduce the pain of knee joint aspiration in patients with osteoarthritis. *J Regional Anesth Pain Med* 2014, 39:280-1.
8. **Babakhani B**, Schott M, Jantzen JP. Unanticipated disturbance in somatosensory evoked potentials monitoring in patient with park bench position. *Turkish J Anesth Reanimation* 2015, 43: 202-204.
9. **Babakhani B**, Hosseinitabatabaei N. Current Position and Future Milestones of Research in the Field of Anesthesiology in Iran. *AACC* 2015, 1:101-104
10. **Babakhani B**, Heroabadi A, Hosseinitabatabaei N, Schott M, Yekaninejad S, Jantzen JP, Baumert JH. Cerebral Oxygenation Under General Anesthesia Can Be Safely Preserved in Patients in Prone Position: A Prospective Observational Study. *J Neurosurg Anesthesiol.* 2016 Jun 2.
11. **Babakhani B**. Cerebral Protection during Infrequent Positions: A Pitfall in the Area of Critical Care. *J of Intensive and Critical Care.* 2016, 2, 4: 49.
12. Khazaeipour Z, Ahmadipour E, Rahimi-Movaghar V, Ahmadipour F, Vaccaro AR, **Babakhani B**. Association of pain, social support and socioeconomic indicators in patients with spinal cord injury in Iran. *Nature, Spinal Cord* 2017, 55: 180-186.
13. Heroabadi A, **Babakhani B**, Azimaraghi O, Suhr D, Jantzen J, et al. Cerebral Oxygen Monitoring: An Observational Prospective Study on Seated Position Neurosurgical Procedures. *Arch Neurosci.* 2017 ;4(4):e56123.
14. **Babakhani B**, Moharrami M, Jalal Abbasi A. Retrograde fiberoptic intubation. *Journal of Craniomaxillofacial Research.* 2019, 6(2): 80-84
15. Hajiabadi M, **Babakhani B**, Farzin M, Tavakolizadeh S. Improvement of trigeminal neuralgia following endoscopic third ventriculostomy in a patient with normal pressure hydrocephalus: a case report and review of the literature. *Acta Medica Iranica* 2019, 57(12): 731-732
16. Babaee Z, Dehghani Z **Babakhani B**, S Najafi Mehri S. Couples' experiences of emotional disclosure associated with chronic low back pain: A phenomenological study. *Journal of Health Promotion Management* 10 (1), 34-46
- 17.
18. **Babakhani, B.**, Tabatabaei, N. H., Elisevich, K., Sadeghbeigi, N., Barzegar, M., Mobarakeh, N. M., ... & Nazem-Zadeh, M. R. A Preliminary Study of the Efficacy of Transcranial Direct Current Stimulation in Trigeminal Neuralgia. *Frontiers in Human Neuroscience*, 16. (2022)
19. Masoumipour M, **Babakhani B**, Jameie SB, Majdabadi A, Salehi Barough M. The Modelling of Laser Parameters Effects on Temperature Changes in Different Tissues. *Computational Sciences and Engineering*, (), -. doi: 10.22124/cse.2023.23784.1046.
20. Masoume Masoumipour, Mehdi Salehi Barough PhD, Seyed Behnamedin Jameie PhD, Abbas Majdabadi PhD, Narges Hosseinitabatabaei MD, **Babak Babakhani MD, PhD**. Therapeutic Effects of Low-Level Laser Therapy on Pain and Disability of Patients with Failed Back Surgery Syndrome. *Indian Journal of Orthopaedics*, 58 (4), 417-423

21. Masoumipour M, Barough MS, Babakhani B, Jameie B, Majdabadi A. Thrita Journal of Neuron 13 (1)Diabetic Patients with Chronic Pain after Lumbar Surgery Experienced Fewer Analgesic Effects of Laser Therapy. Thrita Journal of Neuron 13 (1) <https://doi.org/10.5812/thrita-149092>

#### **Books:**

A practical guide to diagnosis and treatment of acute respiratory failure in adults (ARDS).  
(Original book is in Persian language) International Standard Book Number (ISBN):  
9789647112277

### **ORAL PRESENTATIONS**

- 1- **Babakhani B**, Heroabadi A. Near Infrared Spectroscopy and carotid endarterectomy with a special evaluation of prone positioning – research design. 1<sup>st</sup> General PhD-Meeting, Hannover, Germany, 2013
- 2- **Babakhani B**. Cerebral monitoring. Nordstadt Academic Hospital, Hannover, Germany, 2013
- 3- **Babakhani B**. Journal Club presentation, International Neuroscience Institute Hannover, Germany, 2014
- 4- **Babakhani B**, Heroabadi A. Near Infrared Spectroscopy and carotid endarterectomy with a special evaluation of prone positioning - preliminary results. 2<sup>nd</sup> General PhD-Meeting, Hannover, Germany, 2014
- 5- **Babakhani B**. Cerebral oxygenation in prone position. 5<sup>th</sup> Networking World Anesthesia Convention, Vienna, Austria, 2014
- 6- **Babakhani B**, Heroabadi A. Intraoperative neurologic monitoring in patients undergoing carotid endarterectomy procedure using routine shunting: NIRS or SSEP? 6<sup>th</sup> International Congress of Neurosurgery, Tehran, Iran, 2014
- 7- **Babakhani B**, Heroabadi A. Changes of cerebral oxygenation due to prone positioning: a prospective study. 6<sup>th</sup> International Congress of Neurosurgery, Tehran, Iran, 2014
- 8- **Babakhani B**, Abbasian M, Hosseinitabatabaei N. How to reduce the pain of knee joint aspiration and injection in patients with osteoarthritis? 33<sup>th</sup> Annual European Society of Regional Anaesthesia & Pain Therapy Congress, Seville, Spain, 2014
- 9- **Babakhani B**, Heroabadi A. Intraoperative neuromonitoring and neuroprotection. 2<sup>nd</sup> General PhD-Meeting, Hannover Germany, 2014
- 10- **Babakhani B**. Surgical indication is a risk factor for venous air embolism in semi-sitting position. 62<sup>th</sup> Annual Congress of German Society of Anesthesiology and Intensive Care, Dusseldorf, Germany, 2015 (DAC 2015)
- 11- **Babakhani B**. How functional MRI could serve patients with chronic pain? International Conference and Exhibition on Pain Medicine, Chicago, USA, 2015
- 12- **Babakhani B**. Air embolism in neurosurgical procedures performed in semi-sitting position. Second Annual Congress of Skull Base Surgery and Instructive Course of Endoscopic Approaches, Tehran, Iran, 2015
- 13- **Babakhani B**. Neurosurgical procedures performed in semi-sitting position: "Is it time to let the cat out of the bag?" 5<sup>th</sup> Symposium of World Federation of Neurosurgical Societies, Tehran, Iran, 2016
- 14- **Babakhani B**. Spinal cord stimulation: Current status and future directions. 5<sup>th</sup> Symposium of World Federation of Neurosurgical Societies, Tehran, Iran, 2016

- 15- **Babakhani B.** Presentation and Management of Pain in Individuals with Spinal Cord Injury. Seminar of Pain Disorders after Spinal Cord Injury, Tehran, Iran, 2017.
- 16- Khazaeipour Z, Ahmadipour E, Rahimi-Movaghar V, Ahmadipour F, Vaccaro AR and **Babakhani B.** Relationship Between Pain, Social Support and Socio-Economic Indicators in Individuals with Spinal Cord Injury. ACRM Annual Conference, Atlanta, USA, 2017.
- 17- **Babakhani B.** Applications of neuromodulation in individuals with neuropathic pain. 13th Congress of Iranian Pain Society, Tehran, Iran, 2017.
- 18- **Babakhani B.** Minimally Invasive Management of Spinal Canal Stenosis: Introduction of a Novel Technique. 13th International Congress of Anesthesiology Critical Care and Pain, Tehran, Iran, 2017.
- 19- **Babakhani B.** Pain Management: History and Taxonomy. Workshop on Basics of Clinical Chronic Pain Management. Tehran, Iran, 2018.
- 20- **Babakhani B.** Minimally Invasive Management of Chronic Low Back Pain . Workshop on Basics of Clinical Chronic Pain Management. Tehran, Iran, 2018.
- 21- **Babakhani B.** Applications of Ultrasound in Minimally Invasive Procedures of Lumbosacral Region. 5<sup>th</sup> Seminar and Workshop on Applications of Ultrasound in Anesthesiology, Regional Anesthesiology and Pain Management. Tehran, Iran, 2018.
- 22- **Babakhani B.** Presentation and Management of Pain in Individuals with Spinal Cord Injury. Second Seminar of Pain Disorders after Spinal Cord Injury, Tehran, Iran, 2018.
- 23- **Babakhani B.** Low Back Pain: What if You Fail to Diagnose the Source? 14<sup>th</sup> Seminar of Rehabilitation of Spinal Column Disorders. Tehran, Iran, 2018.

## **POSTER AND E-POSTER PRESENTATIONS**

1. **Babakhani B,** Schott M, Hosseini Tabatabaei, B.Tautz B, Heroabadi A, Jantzen JP. Effect of prone position on cerebral oxygenation in anesthetized patients- a prospective study. Congress Neurointensive Medicine, Hannover, Germany, 2014
2. **Babakhani B.** Intra-articular bupivacaine can reduce the pain of knee joint aspiration in patients with knee osteoarthritis. 33<sup>th</sup> Annual ESRA Congress, Seville, Spain
3. **Babakhani B,** Schott M, Hosseini Tabatabaei, B.Tautz B, Heroabadi A, Jantzen JP. Prone position causes changes of cerebral oxygenation in anesthetized patients. 5<sup>th</sup> World Anesthesia Convention Networking (NWAC), Vienna, Austria, 2014
4. **Babakhani B,** Hosseinitabatabaei N, Schott M, Jantzen JP. Carotid endarterectomy using routine shunting and the risk of cerebral hyper-perfusion syndrome. 42<sup>th</sup> Annual Meeting of the Society for Neuroscience in Anesthesiology and Critical Care (SNACC), New Orleans, LA, USA, 2014
5. **Babakhani B,** Hosseinitabatabaei N, Schott M, Jantzen JP. Practical use of near infrared spectroscopy and somatosensory evoked potential monitors in carotid endarterectomy surgery with routine shunting " A prospective study". 42<sup>th</sup> Annual Meeting of the Society for Neuroscience in Anesthesiology and Critical Care (SNACC), New Orleans, LA, USA, 2014
6. **Babakhani B,** Abbasian M, Hosseinitabatabaei N. Intra-articular bupivacaine can reduce the pain of knee joint aspiration in patients with osteoarthritis. 33<sup>th</sup> Annual European Society of Regional Anaesthesia & Pain Therapy Congress, Seville, Spain, 2014
7. Achenbach J, Schott M, Raymann A, **Babakhani B,** Jantzen JP. The ultrasound-guided „serratus plane block“– an alternative analgesia in severe thoracic trauma. (Original presentation in German: Der sonographisch gesteuerte "Serratus Plane Block" - ein alternatives einfaches Analgesieverfahren

bei schwerem Thoraxtrauma auf der Intensivstation) 14<sup>th</sup> congress of interdisciplinary intensive care and emergency medicine (DIVI 2014), Hamburg, Germany, 2014

8. **Babakhani B**, Hosseinitabatabaei N, Schott M, Engelking J, Achenbach J, Jantzen J.-P. Predictive value of cerebral oximetry on postoperative delirium in patients undergoing carotid endarterectomy using routine shunting "Preliminary results of a prospective study". 32<sup>th</sup> Congress of Neurointensive Medicine (ANIM 2015), Berlin, Germany, 2015.
9. **Babakhani B**, Hosseinitabatabaei N, Schott M, Jantzen JP. Some indexes of cerebral oximetry have predictive value for post-operative delirium in patients undergoing carotid endarterectomy using routine shunting: "prospective study". IARS 2015 Annual Meeting and International Science Symposium, Honolulu, Hawaii, 2015.
10. Schott M, **Babakhani B**, Hosseinitabatabaei N, Thurmer G, Gaab M, Jantzen JP. Surgical indication is a risk factor for vae in neurosurgical patients undergoing surgery in semisitting position: retrospective study of 793 cases. IARS 2015 Annual Meeting and International Science Symposium, Honolulu, Hawaii, 2015.

### **CONTINUING RESEARCH AND CLINICAL INITIATIVES**

- 1- Modified Epiduroplasty for Patients with Acquired Lumbar Spinal Column Stenosis: Prospective Study and One Year Follow Up. (Principal Investigator) (Approval ID: IR.TUMS.VCR.REC.1397.1014)
- 2- Clinical and Imaging-Functional Properties of Somatosensory and Motor Area Trans-Cranial Direct Cortical Stimulation in Patients with Refractory Trigeminal Neuralgia. (Principal Investigator) (Approval ID: IR.TUMS.VCR.REC.1397.1123)
- 3- Venous Air Embolism in Patients Undergoing Neurosurgical Procedures in Semi-Sitting Position. (Principal Investigator) (Approval ID: IR.TUMS.VCR.REC.1397.189)
- 4- Determination of memory and language laterality and precise eloquent areas in patients with brain tumors adjacent to eloquent areas. (Principal Investigator) (Approval ID: IR.TUMS.VCR.REC.1398.155)
- 5- Comparison of the therapeutic effects of laser assisted intradiscal nucleoplasty with and without adjunct intradiscal ozone in patients with lumbar discopathy. (Principal Investigator) (Approval ID: IR.TUMS.NI.REC.1398.005) (RCT ID: IRCT20200107046039N1)
- 6- Effects of low-level laser therapy on pain and quality of life in individuals who suffer from pain and disability after low back surgery. (Principal Investigator) (Approval ID: IR.TUMS.NI.REC.1399.016)
- 7- Design, synthesis and evaluation of a peptide-based AChE inhibitor for the treatment of cognitive deficits in rat model of traumatic brain injury. (Principal Investigator) (Approval ID: Iran National Science Foundation, Proposal No.: 99014013, Contract No.: 2413)