

ANI – Publications

General Anesthesia

2017-Liang HS, Feng Y[Effect of Transcutaneous Acupoint Electrical Stimulation on Hemodynamic Fluctuation Caused by Loosing Tourniquet in Elderly Patients Undergoing Knee Joint Replacement]. [Article in Chinese]Zhen Ci Yan Jiu.2017 Dec 25;42(6):522-6.
doi:10.13702/j.1000-0607.2017.06.011

2017- Defresne A, Barvais L, Clement F, Bonhomme V. Standardised noxious stimulation-guided individual adjustment of remifentanil target-controlled infusion to prevent haemodynamic responses to laryngoscopy and surgical incision: A randomised controlled trial. Eur J Anaesthesiol. 2017 Nov 18. doi: 10.1097/EJA.0000000000000742

2017-Lisa LE Gall MD, Anaëlle David MD, Pauline Carles MD,Sébastien LEUILLET MSc, Brigitte Chastel MD, Catherine Fleureau MD,Antoine Dewitte MD, Alexandre Ouattara MD PhD Intraoperative analgesia guided by the Analgesia Nociception Index in bariatric surgery: An unmatched case-control study.Anesthesia Critical Care and Pain Medicine. 2017 Oct 12
DOI:10.1016/j.accpm.2017.09.004

2017- Ledowski T Monitoring nociception-getting 'there yet' might be easier with a road map. Br J Anaesth. 2017 Oct 1;119(4):716-717. doi: 10.1093/bja/aex277.

2017- Lakshman K. Kommula, MBBS, MD, PDF, Sonia Bansal, MBBS, MD, DNB, PDF, and Ganne S. Umamaheswara Rao, MBBS, MD Analgesia Nociception Index Monitoring During Supratentorial Craniotomy.J Neurosurg Anesthesiol Volume 00, Number 00 DOI: 10.1097/ANA.0000000000000464

2017- Thomas Anthony Anderson.Heart Rate Variability: implications for perioperative anesthesia care.Current Opinion. Curr Opin Anesthesiol 2017, 30:000–000
DOI:10.1097/ACO.0000000000000530

2017- Dundar N, Kus A, Gurkan Y, Toker K, Solak M.Analgesia nociception index (ani) monitoring in patients with thoracic paravertebral block: a randomized controlled study.J Clin Monit Comput. 2017 Jun 19. doi: 10.1007/s10877-017-0036-9.

2017- Daccache G, Jeanne M, Fletcher D.The Analgesia Nociception Index: Tailoring Opioid Administration. Anesth Analg. 2017 Jul;125(1):15-17.

2017- Henry D. Upton, MBBS, BMedSc (Hons), Guy L. Ludbrook, MBBS, FANZCA, PhD, Andrew Wing, BMBS (Hons), BSci (Hons), FANZCA, and Jamie W. Sleight, MD Intraoperative “Analgesia Nociception Index”— Guided Fentanyl Administration During Sevoflurane Anesthesia in Lumbar Discectomy and Laminectomy: A Randomized Clinical Trial *Anesthesia & Analgesia* July 2017

2017 - Funcke S, Sauerlaender S, Pinnschmidt HO, Saugel B, Bremer K, Reuter DA, Nitzschke R. Validation of Innovative Techniques for Monitoring Nociception during General Anesthesia: A Clinical Study Using Tetanic and Intracutaneous Electrical Stimulation. *Anesthesiology*. May 16.

2017-Turan G, Ar AY, Kuplay YY, Demiroglu O, Gazi M, Akgun N, Celikoglu E. Analgesia Nociception Index for perioperative analgesia monitoring in spinal surgery]. *ev Bras Anesthesiol*. 2017 Apr 11. pii: S0034-7094(17)30163-0. doi: 10.1016/j.bjan.2017.03.004.

2017 -Abad-Gurumeta A, Ripollés-Melchor J, Casans-Francés R, Calvo-Vecino JM. Monitoring of nociception, reality or fiction? *Rev Esp Anesthesiol Reanim*. 2017 Mar 21

2016 - Daccache G, Caspersen E, Pegoix M, Monthé-Sagan K, Berger L, Fletcher D, Hanouz JL. A targeted remifentanyl administration protocol based on the analgesia nociception index during vascular surgery. *Anaesth Crit Care Pain Med*. 2016 Online available Oct 12.

2016- Matthias Gruenevald, Astrid Dempfle Analgesia/Nociception monitoring for opioid guidance: meta-analysis of randomized clinical trials. *Minerva Anesthesiol* 2016 Nov 03

2016- Boselli E, Logier R, Bouvet L, Allaouchiche B. Prediction of hemodynamic reactivity using dynamic variations of Analgesia/Nociception Index (Δ ANI). *J Clin Monit Comput*. 2016 Dec;30(6):977-984.

2015 - Boselli E, Bouvet L, Bégou G, Torkmani S, Allaouchiche B. Prediction of hemodynamic reactivity during total intravenous anaesthesia for suspension laryngoscopy using Analgesia/Nociception Index (ANI) : a prospective observational study. *Minerva Anesthesiol* 2015 March; 81(3):288-97.

2015 - Szentl JA, Webb A, Weeraratne D, Campbell A, Sivakumar H, Leong S. Postoperative pain after laparoscopic cholecystectomy is not reduced by intraoperative analgesia guided by analgesia nociception index (ANI) monitoring: a randomized clinical trial. *Br J Anaesth* 2015 Apr; 114(4):640-5.

2015 - Bollag L, Ortner CM, Jelacic S, Rivat C, Landau R, Richebé P. The effects of low-dose ketamine on the analgesic nociception index (ANI) measured with the novel PhysioDoloris™ analgesia monitor: a pilot study. *J Clin Monit Comput*. 2015 Apr; 29(2):291-5.

2015 - De Jonckheere J, Bonhomme V, Jeanne M, Boselli E, Gruenewald M, Logier R, Richebé P. Physiological signal processing for individualized anti-nociception management during general anesthesia: a review. *Yearb Med Inform*. 2015 Aug 13; 10(1):95-101.

2015 - Gruenewald M, Herz J, Schoenherr T, Thee C, Steinfath M, Bein B. Measurement of the nociceptive balance by Analgesia Nociception Index (ANI) and Surgical Pleth Index (SPI) during Sevoflurane – Remifentanil anaesthesia. *Minerva Anesthesiol* 2015 May; 81(5):480-9.

2014 - Jeanne M, Delecroix M, De Jonckheere J, Keribedj A, Logier R, Tavernier B. Variations of the Analgesia Nociception Index during propofol anesthesia for total knee Replacement. *Clin J Pain* 2014 Dec; 30(12):1084-8.

2014 - Ledowski T, Averhoff L, Tiong WS, Lee C. Analgesia Nociception Index (ANI) to predict intraoperative haemodynamic changes: results of a pilot investigation. *Acta Anaesthesiol Scand*. 2014 Jan; 58(1):74-9.

2014 - Boselli E, Bouvet L, Bégou G, Dabouz R, Davidson J, Deloste J-Y, Rahali N, Zadam A, Allaouchiche B. Prediction of immediate postoperative pain using the Analgesia Nociception Index: a prospective observational study. *Br J Anaesth*. 2014 Apr;112(4):715-21. doi: 10.1093/bja/aet407

2013 - Gruenewald M, Ilies C, Herz J, Schoenherr T, Fudickar A, Höcker J, Bein B. Influence of nociceptive stimulation on Analgesia Nociception Index (ANI) during propofol-remifentanil Anaesthesia. *Br J Anaesth* 2013; 110:1024-30.

2013 - Boselli E, Daniela-Ionescu M, Bégou G, Bouvet L, Dabouz R, Magnin C, Allaouchiche B. Prospective observational study of the non-invasive assessment of immediate postoperative pain using the analgesia/nociception index (ANI). *Br J Anaesth* 2013 Doi:10.1093/bja/aet110.

2013 - Ledowski T, Tiong WS, Lee C, Wong B, Fiori T, Parker N. Analgesia Nociception Index: evaluation as a new parameter for acute postoperative pain, *Br J Anaesth* 2013 111 (4): 627-629.

2012 - Jeanne M, Clément C, De Jonckheere J, Logier R, Tavernier B. Variations of the Analgesia Nociception Index during general anaesthesia for laparoscopic abdominal surgery. *J Clin Monit Comput* 2012 Aug; 26(4):289-94.

2011 - Logier R, De Jonckheere J, Delecroix M, Keribedj A, Jeanne M, Jounwaz R, Tavernier B. Heart Rate Variability analysis for arterial hypertension etiological diagnosis during surgical procedures under tourniquet, *IEEE Proceedings* 2011.

2010 - Logier R, Jeanne M, De Jonckheere J, Dassonneville A, Delecroix M, Tavernier B. PhysioDoloris: a monitoring device for Analgesia / Nociception balance evaluation using Heart Rate Variability analysis, *IEEE Proceedings* 2010.

2009 - Jeanne M, Logier R, De Jonckheere J, Tavernier B. Validation of a graphic measurement of heart rate variability to assess analgesia/nociception balance during general anesthesia, IEEE Proceedings 2009.

2009 - Jeanne M, Logier R, De Jonckheere J, Tavernier B. Heart rate variability during total intravenous anesthesia: Effects of nociception and analgesia. Autonomic Neuroscience 2009.

2006 - Logier R, Jeanne M, Tavernier B, De Jonckheere J. Pain / Analgesia evaluation using heart rate variability analysis. IEEE Proceedings 2006.

ANI – Conscious Patients

2017-E. Boselli · H. Musellec · L. Martin · F. Bernard · N. Fusco · N. Guillou · P. Hugot · X. Paqueron · T. Yven · C. Virot Effects of hypnosis on the relative parasympathetic tone assessed by ANI (Analgesia/Nociception Index) in healthy volunteers: a prospective observational J.Clin Monit Comput DOI 10.1007/s10877-017-0056-5

2017- Issa R, Julien M, Décary E, Verdonck O, Fortier LP, Drolet P, Richebé P. Evaluation of the analgesia nociception index (ANI) in healthy awake volunteers. Can J Anaesth. 2017 Apr 21.

2017-Yan Q, An HY, Feng Y. Pain assessment in conscious healthy volunteers: a crossover study evaluating the analgesia/nociception index. Br J Anaesth. 2017 Apr 1;118(4):635-636.

2016 - Jess G, Pogatzki-Zahn EM, Zahn PK, Meyer-Frießem CH. Monitoring heart rate variability to assess experimentally induced pain using the analgesia nociception index: A randomized volunteer study Eur J Anaesthesiol. 2016 Feb;33(2):118-25.

2013- E. Boselli, M. Daniela-Ionescu, G. Bé gou, L. Bouvet, R. Dabouz, C Magnin and B. Allaouchiche Prospective observational study of the non-invasive assessment of immediate postoperative pain using the analgesia/nociception index (ANI) BJA Advance Access published April 16, 2013

ANI – Maternity

2012 - Le Guen M, Jeanne M, Sievert K, Al Moubarik M, Chazot T, Laloe PA, Dreyfus JF, Fischler M. The Analgesia Nociception Index: a pilot study to evaluation of a new pain parameter during labor. International Journal of Obstetric Anesthesia 2012; 21(2) , Pages 146–151.

ANI – Pediatric

2016 - Avez-Couturier J, De Jonckheere J, Jeanne M, Vallée L, Cuisset JM, Logier R. Assessment of Procedural Pain In Children Using Analgesia Nociception Index: A Pilot Study. *Clin J Pain*. 2016 Dec;32(12):1100-1104.

2015 - Gall O, Champigneulle B, Schweitzer B, Deram T, Maupain O, Montmayeur J, Verchere, Orliaguet G. Postoperative pain assessment in children: a pilot study of the usefulness of the Analgesia Nociception Index. *Br J Anaesth* 115 (6): 890–5 2015.

2013 - Migeon A, Desgranges F-P, Chassard D, Blaise BJ, De Queiroz M, Stewart A, Cejka J-C, Combet S, Rhondali O. Pupillary reflex dilatation and analgesia nociception index monitoring to assess the effectiveness of regional anesthesia in children anesthetised with sevoflurane, *Pediatric Anesthesia* Dec;23(12):1160-5 2013.

2013 - Sabourdin N, Arnaout M, Louvet N, Guye M-L, Piana F & Constant I, Pain monitoring in anesthetized children: first assessment of skin conductance and Analgesia Nociception Index at different infusion rates of remifentanyl. *Pediatric Anesthesia* 2013 Feb; 23(2):149-55.

ANI – Intensive Care Unit/Post OP care Unit

2017 Luo J, Min S. Postoperative pain management in the postanesthesia care unit: an update. *J Pain Res*. 2017 Nov 16;10:2687-2698. doi: 10.2147/JPR.S142889. eCollection 2017. Review. PMID:29180895

2017 Chanques G, Tarri T, Ride A, Prades A, De Jong A, Carr J, Molinari N, Jaber S^{1,2}. Analgesia nociception index for the assessment of pain in critically ill patients: a diagnostic accuracy study. *Br J Anaesth*. 2017 Oct 1;119(4):812-820. doi: 10.1093/bja/aex210.

2017 Ali Jendoubi, Ahmed Abbes, Salma Ghedira, and Mohamed Houissa Pain Measurement in Mechanically Ventilated Patients with Traumatic Brain Injury: Behavioral Pain Tools Versus Analgesia Nociception Index *Indian J Crit Care Med*. 2017 Sep; 21(9): 585–588. doi: 10.4103/ijccm.IJCCM_419_16

2016 - Vasilios P, Ioanna C, Elisabeth G, Mourad B, Axelle F, Veronique M, Sabri S, Alice B, Marc C, Benoit P, Alexandre M, Mattieu, L. Heart rate variability and cardiac baroreflex inhibition-derived index predicts pain perception in burn patients. *Burns* 2016 Nov;42(7):1445-1454.

2016 - Broucqsaault-Dédrie C, De Jonckheere J, Jeanne M, Nseir S, Measurement of Heart Rate Variability to assess pain in sedated critically ill patients: A prospective observational study. Plos One 2016; 11(1): e0147720

NIPE publications

2018-Cremillieux C, Makhlof A, Pichot V, Trombert B, Patural H. Objective assessment of induced acute pain in neonatology with the Newborn Infant Parasympathetic Evaluation (NIPE) index. Eur J Pain. 2018 Jan 25. doi: 10.1002/ejp.1191. [Epub ahead of print]

2017- Rakza T, Butruille L, Thirel ML, Houfflin-Debargue V, Logier R, Storme L, DE Jonckheere J. Short-term Impact of Assisted Deliveries: Evaluation Based on Behavioral Pain Scoring and Heart Rate Variability. Clin J Pain. 2017 Nov 10. doi: 10.1097/AJP.0000000000000572. [Epub ahead of print]

2017-Butruille L, Blouin A, De Jonckheere J, Mur S, Margez T, Rakza T, Storme L Impact of skin-to-skin contact on the autonomic nervous system in the preterm infant and his mother. Infant Behav Dev. 2017 Aug 1;49:83-86. doi: 10.1016/j.infbeh.2017.07.003.

2015- Szurhaj W , Troussière AC , Logier R , Derambure P , Tyvaert L , Semah F , Ryvlin P , De Jonckheere J Ictal changes in parasympathetic tone: Prediction of postictal oxygen desaturation. Neurology. 2015 Oct 6;85(14):1233-9. doi: 10.1212/WNL.0000000000001994. Epub 2015 Sep 4.

2013-Alexandre C, De Jonckheere J, Rakza T, Mur S, Carette D, Logier R, Jeanne M, Storme L. - [Impact of cocooning and maternal voice on the autonomic nervous system activity in the premature newborn infant]. Arch Pediatr. 2013 Sep;20(9):963-8. doi: 10.1016/j.arcped.2013.06.006. Epub 2013 Jul 23. [Article in French]

2011-De Jonckheere J, Rakza T, Logier R, Jeanne M, Jounwaz R, Storme L. Heart rate variability analysis for newborn infants prolonged pain assessment. Conf Proc IEEE Eng Med Biol Soc. 2011;2011:7747-50. doi: 10.1109/IEMBS.2011.6091909

2010-Faye PM, De Jonckheere J, Logier R, Kuissi E, Jeanne M, Rakza T, Storme L Newborn infant pain assessment using heart rate variability analysis. Clin J Pain. 2010 Nov-Dec;26(9):777-82.

PTA publications

2017-Mansour C, Merlin T, Bonnet-Garin JM, Chaaya R, Mocci R, Ruiz CC, Allaouchiche B, Boselli E, Junot S. Evaluation of the Parasympathetic Tone Activity (PTA) index to assess the analgesia/nociception balance in anaesthetised dogs. *Res Vet Sci.* 2017 May 10;115:271-277