

Thomas Graven-Nielsen
Professor
Institut for Medicin og Sundhedsteknologi
Det Sundhedsvidenskabelige Fakultet
Center for Sansse-Motorisk Interaktion
Pain and Motor System Plasticity
Center for Neuroplasticity and Pain
Postadresse:
Fredrik Bajers Vej 7
A2-219
9220
Aalborg Ø
Danmark
E-mail: tgn@hst.aau.dk
Telefon: +45 9940 9832
Mobil: +45 2216 0497
Web: <http://www.cnap.hst.aau.dk/>



Forskningsprofil

Research field and research philosophy

The major goal is to identify and modulate key features of human pain neuroplasticity leading to prevention of maladaptive neuroplasticity and promote advantageous neuroplasticity, offering ways to manage chronic pain. A core research philosophy in TGN's work is that pain research by nature is multidisciplinary, hence interdisciplinary and intersectorial collaboration is a key concept, as is collaboration with excellent researchers and students.

Ansættelse

Professor, Leder

Professor, Leder
Institut for Medicin og Sundhedsteknologi
Det Sundhedsvidenskabelige Fakultet
Gistrup, Danmark
1 jul. 1997 → 31 dec. 4712

Professor, Leder

Professor, Leder
Det Sundhedsvidenskabelige Fakultet
Gistrup, Danmark
1 jul. 1997 → 31 dec. 4712

Pain and Motor System Plasticity

Det Sundhedsvidenskabelige Fakultet
Gistrup, Danmark
28 sep. 2015 → present

Professor, Leder

Professor, Leder
Pain and Motor System Plasticity
Det Sundhedsvidenskabelige Fakultet
Gistrup, Danmark
1 jul. 1997 → 31 dec. 4712

Centerleder

Center for Neuroplasticity and Pain
Det Sundhedsvidenskabelige Fakultet
Aalborg East, Danmark
1 feb. 2015 → present

Adjunct Professor

Western Sydney University
Sydney, Australien
1 jan. 2015 → 1 jan. 2017

Adjunct Professor

Curtin University
Australien
1 jan. 2004 → 1 jan. 2019

Adjunct Associate Professor

Curtin University
Australien
1 jan. 2001 → 1 jan. 2004

Publikationer**Age and Sex Effects on Cuff Pressure Pain Sensitivity in a Large Cohort: The Tromsø Study (Tromsø7)**

Graven-Nielsen, T., Christensen, M. E. M., Nielsen, C., Petersen, K.K.-S., Larsen, D. B., Arendt-Nielsen, L., Stubhaug, A. & Steingrimsdóttir, Ó., 2024.

Mechanisms and manifestations in musculoskeletal pain: from experimental to clinical pain settings

Graven-Nielsen, T., 1 nov. 2022, I: *Pain*. 163, Suppl 1, s. S29-S45 17 s.

The nociceptive capacity of muscle, skeletal, and connective tissue

Graven-Nielsen, T. & Arendt-Nielsen, L., 9 aug. 2018, *Pain after surgery*. Carr, D. B., Arendt-Nielsen, L. & Vissers, K. C. P. (red.). Wolters Kluwer, s. 15-32

Musculoskeletal referred pain to the craniofacial region

Graven-Nielsen, T., Fernández-de-las-Peñas, C., McPhee, M. & Arendt-Nielsen, L., 2018, *Temporomandibular Disorders: Manual Therapy, Exercise and Needling*. Fernández-de-las-Peñas, C. & Mesa-Jiménez, J. (red.). Handspring Publishing, s. 67-78

Smerte

Graven-Nielsen, T., Høgh, M. & Vægter, H. B., 2017, *Basisbog i fysioterapi*. Bjørnlund, I. B., Sjöberg, N. E. & Lund, H. (red.). 2 udg. Munksgaard Forlag, s. 71-85 (Fysio/Munksgaard).

User-independent assessment of conditioning pain modulation by cuff pressure algometry

Graven-Nielsen, T., Izumi, M., Petersen, K. K. & Arendt-Nielsen, L., 2017, I: *European Journal of Pain*. 21, 3, s. 552-561

Assessment of musculoskeletal pain mechanisms in clinical and experimental settings: refresher course

Graven-Nielsen, T., 2016.

Assessment of musculoskeletal pain mechanisms in clinical and experimental settings

Graven-Nielsen, T. & Arendt-Nielsen, L., 2016, *Pain 2016 Refresher Courses: 16th World Congress on Pain*. Sommer, C. L., Wallace, M. S., Cohen, S. P. & Kress, M. (red.). Washington: IASP Press, s. 177-184

Inflatable cuff for pain modulation or pain assessment

Graven-Nielsen, T. (Opfinder), Arendt-Nielsen, L. (Opfinder) & Petersen, K. K. (Opfinder), 2016, IPC nr. A61B 5/00 (2006.01) , Patentnr. WO/2016/189093, 1 dec. 2016, Prioritetsdato 26 maj 2016, Prioritetsnr. PCT/EP2016/061924

Novel models for studying the effect of exercise and fatigue on the pain sensitivity in humans: part of topical workshop

Graven-Nielsen, T., 2016.

Approach to activity engagement in musculoskeletal pain: translation from research to clinical application

Graven-Nielsen, T., Kosek, E., Hasenbring, M. & Fehrmann, E., 2015, *Abstract book of the 9th Congress of the European Pain Federation, EFIC, 2-5 September 2015, Vienna, Austria*. European Pain Federation EFIC, s. T5.5 No 5.5a; EFIC5-1109

Assessment of musculoskeletal pain mechanisms and the importance for management

Graven-Nielsen, T. & Arendt-Nielsen, L., 2015, *Refresher Courses, 9th Congress of the European Pain Federation, EFIC, 2-5 September 2015, Vienna, Austria*. European Pain Federation EFIC, s. 67-73

Assessment of musculoskeletal pain sensitivity and temporal summation by cuff pressure algometry: a reliability study

Graven-Nielsen, T., Vaegter, H. B., Finocchietti, S., Handberg, G. & Arendt-Nielsen, L., 2015, *Pain*. 156, 11, s. 2193-2202

Human surrogate models for musculoskeletal pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2015, *Pain Models: Translational Relevance and Applications*. Handwerker, H. O. & Arendt-Nielsen, L. (red.). Wolters Kluwer, s. 317-333

Muscular pain comorbidities in joint diseases

Graven-Nielsen, T., Bliddal, H. & Arendt-Nielsen, L., 2015, *Pain Comorbidities: Understanding and Treating the Complex Patient*. Giamberardino, M. A. & Jensen, T. S. (red.). Wolters Kluwer, s. 349-372

System for evaluating pain modulation, spatial and/or temporal summation of pain or descending inhibition of pain in a human

Graven-Nielsen, T. (Opfinder) & Arendt-Nielsen, L. (Opfinder), 2015, IPC nr. A61B5/00, A61B5/021, A61B5/022, Patentnr. WO2015063221, 7 maj 2015, Prioritetsdato 30 okt. 2014

The interaction of musculoskeletal pain and physical activity: human studies

Graven-Nielsen, T., Madsen, H. B. & Arendt-Nielsen, L., 2015, *Routledge Handbook of Physical Activity and Mental Health*. Ekkekakis, P. (red.). Routledge, s. 359-371 (Routledge Handbooks).

The nociceptive capacity of muscle, skeletal, and connective tissue

Graven-Nielsen, T. & Arendt-Nielsen, L., 2015, *Postoperative Pain: Science and Clinical Practice*. Wilder-Smith, O., Arendt-Nielsen, L., Yarnitsky, D. & Vissers, K. C. P. (red.). Wolters Kluwer, s. 17-33

Assessment of musculoskeletal pain mechanisms and relevant human experimental models

Graven-Nielsen, T. & Arendt-Nielsen, L., 2014, *Musculoskeletal Pain: Basic Mechanisms and Implications*. Graven-Nielsen, T. & Arendt-Nielsen, L. (red.). IASP Press, s. 369-391

Basic mechanisms and assessment of musculoskeletal pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2014, *Pain 2014 Refresher Courses: 15th World Congress on Pain*. Raja, S. N. & Sommer, C. L. (red.). IASP Press, s. 153-161

Improving the outcome of patients with musculoskeletal and postsurgical pains: understanding pain mechanisms and controlling co-morbidities

Graven-Nielsen, T., 2014, *Annual Meeting of the Society for Neuroscience, Neuroscience 2014, 15-19 November 2014, Washington, DC, USA*. s. Presentation No. 766.07

Musculoskeletal pain: basic mechanisms and implications

Graven-Nielsen, T. (Redaktør) & Arendt-Nielsen, L. (Redaktør), 2014, IASP Press.

Preface

Graven-Nielsen, T. & Arendt-Nielsen, L., 2014, *Musculoskeletal Pain: Basic Mechanisms and Implications*. Graven-Nielsen, T. & Arendt-Nielsen, L. (red.). IASP Press, s. ix-xi

Exogenous muscle pain

Graven-Nielsen, T., 2013, *Encyclopedia of Pain*. Gebhart, G. F. & Schmidt, R. F. (red.). 2 udg. Berlin: Springer Publishing Company, s. 1230-1233

Human surrogate models for musculoskeletal pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2013, *Pain Models: Translational Relevance and Applications*. Handwerker, H. O. & Arendt-Nielsen, L. (red.). IASP Press, s. 317-333

Neurophysiological basis of muscle-referred pain to the head

Graven-Nielsen, T., Ge, H.-Y. & Arendt-Nielsen, L., 2013, *Multidisciplinary Management of Migraine: Pharmacological, Manual, and Other Therapies*. Fernández-de-las-Peñas, C., Chaitow, L. & Schoenen, J. (red.). Jones and Bartlett Publishers, s. 57-66 (Contemporary Issues in Physical Therapy and Rehabilitation Medicine).

Quantitative sensory testing in musculoskeletal pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2013, *Refresher Courses, Pain in Europe VIII : 8th Congress of the European Pain Federation EFIC, 9 October 2013, Florence, Italy*. European Pain Federation EFIC, s. 35-42

Referred muscle pain, assessment

Graven-Nielsen, T., 2013, *Encyclopedia of Pain*. Gebhart, G. F. & Schmidt, R. F. (red.). 2 udg. Berlin: Springer Publishing Company, s. 3372-3376

Sensitization is more prominent in patients with pain after revision total knee arthroplasty than in painful knee osteoarthritis

Graven-Nielsen, T., Skou, S. T., Rasmussen, S., Simonsen, O., Laursen, M. B. & Arendt-Nielsen, L., 2013, *Abstract Book of the 8th Congress of the European Federation of IASP Chapters (EFIC), 9-12 October 2013, Florence, Italy*. European Pain Federation EFIC, s. No. 167

The interaction of musculoskeletal pain and physical activity: human studies

Graven-Nielsen, T., Madsen, H. B. & Arendt-Nielsen, L., 2013, *Routledge Handbook of Physical Activity and Mental Health*. Ekkekakis, P. (red.). Routledge, s. 359-371

Translational studies on nerve growth factor, sensitisation and pain

Graven-Nielsen, T., Schmelz, M. & Mense, S., 2013, *Abstract Book of the 8th Congress of the European Federation of IASP Chapters (EFIC), 9-12 October 2013, Florence, Italy*. European Pain Federation EFIC, s. No. 19

Effects of musculoskeletal pain on postural control and force variability

Graven-Nielsen, T., 2012, *Abstracts of the 14th World Congress on Pain, International Association for the Study of Pain, IASP, 27-31 August 2012, Milan, Italy*. IASP Press, s. No. TW 24

Impaired postural control in knee osteoarthritis patients: effects of visual and feet proprioceptive input and disease severity

Graven-Nielsen, T., Hirata, R. P., Jørgensen, T. S., Rosager, S., Arendt-Nielsen, L., Bliddal, H. & Henriksen, M., 2012, *Proceedings of the XIXth Congress of the International Society of Electrophysiology & Kinesiology, ISEK2012, 19-21 July 2012, Brisbane, Australia*. ISEK, s. 46, No. BIOM_O3.3

Muscular pain comorbidities in joint diseases

Graven-Nielsen, T., Bliddal, H. & Arendt-Nielsen, L., 2012, *Pain Comorbidities: Understanding and Treating the Complex Patient*. Giamberardino, M. A. & Jensen, T. S. (red.). IASP Press, s. 349-372

Musculoskeletal pain mechanisms and quantitative assessment

Graven-Nielsen, T. & Arendt-Nielsen, L., 2012, *Pain 2012 Refresher Courses: 14th World Congress on Pain*. Tracey, I. (red.). Seattle, WA: IASP Press, s. 147-156

Musculoskeletal pain mechanisms and quantitative assessment

Graven-Nielsen, T., 2012, *Abstracts of the 14th World Congress on Pain, International Association for the Study of Pain, IASP, 27-31 August 2012, Milan, Italy*. IASP Press

Normalization of widespread hyperesthesia and facilitated spatial summation of deep-tissue pain in knee osteoarthritis patients after knee replacement

Graven-Nielsen, T., Wodehouse, T., Langford, R. M., Arendt-Nielsen, L. & Kidd, B. L., 2012, I: *Arthritis & Rheumatism*. 64, 9, s. 2907-2916

Reply: to comment on "Normalization of widespread hyperesthesia and facilitated spatial summation of deep-tissue pain in knee osteoarthritis patients after knee replacement"

Graven-Nielsen, T., Wodehouse, T., Langford, R. M., Arendt-Nielsen, L. & Kidd, B. L., 2012, I: *Arthritis & Rheumatism*. 64, 12, s. 4165-4166

Temporal summation of pain evoked by pressure stimulation in muscle: a finite element study of tissue stress/strain distribution

Graven-Nielsen, T., Finocchietti, S. & Arendt-Nielsen, L., 2012, *Abstracts of the 14th World Congress on Pain, International Association for the Study of Pain, IASP, 27-31 August 2012, Milan, Italy*. IASP Press, s. No. PW 233

Translational studies on myofascial trigger points: models and clinical implication

Graven-Nielsen, T., Mense, S. & Giamberardino, M. A., 2011, I: *European Journal of Pain Supplements*. 5, 1, s. 11-12, No. 45

Assessment of mechanisms in localized and widespread musculoskeletal pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2010, I: *Nature Clinical Practice Rheumatology*. 6, 10, s. 599-606

Human experimental models of tonic deep tissue pain and manifestations of widespread hyperalgesia

Graven-Nielsen, T., 2010, *Abstracts of the 13th World Congress on Pain, International Association for the Study of Pain (IASP), 29 August - 2 September 2010, Montreal, Canada [CD-ROM]*. IASP Press, s. No. TS 53

Injection of nerve growth factor causes prolonged hyperalgesia to phasic pressure stimulation but not allodynia to vibration stimulation

Graven-Nielsen, T., Nie, H., Mense, S. & Arendt-Nielsen, L., 2010, *Abstracts of the 13th World Congress on Pain, International Association for the Study of Pain (IASP), 29 August - 2 September 2010, Montreal, Canada [CD-ROM]*. IASP Press, s. No. PT 251

Motor adaptation in musculoskeletal pain

Graven-Nielsen, T., 2010, *Abstracts of the XVIII Congress of the International Society of Electrophysiology and Kinesiology, ISEK 2010, 16-19 June 2010, Aalborg, Denmark [CD-ROM]*. Falla, D. & Farina, D. (red.). Aalborg: Department of Health Science and Technology. Aalborg University

Referral of musculoskeletal pain

Graven-Nielsen, T. & Mense, S., 2010, *Muscle Pain: Understanding the Mechanisms*. Mense, S. & Gerwin, R. D. (red.). Berlin: Springer, s. 177-205

Reorganized motor control due to muscle pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2010, *Muscle Pain: Understanding the Mechanisms*. Mense, S. & Gerwin, R. D. (red.). Berlin: Springer, s. 251-268

Smertemekanismer ved kroniske muskuloskeletale tilstande

Graven-Nielsen, T., Arendt-Nielsen, L., Madeleine, P. & Svensson, P., 2010, I: *Ugeskrift for læger*. 172, 24, s. 1824-1827

Repeated injections of a high dose nerve growth factor (NGF) do not induce immediate muscle pain but prolonged hyperalgesia

Graven-Nielsen, T., Nie, H., Mense, S. & Arendt-Nielsen, L., 2009, I: *European Journal of Pain*. 13, Suppl. 1, s. S125, No. 415

Facilitated temporal summation of pressure pain during muscle hyperalgesia evoked by nerve growth factor and eccentric contractions

Graven-Nielsen, T., Nie, H., Arendt-Nielsen, L. & Madeleine, P., 2008, *Abstracts of the 12th World Congress on Pain, International Association for the Study of Pain (IASP), 17-22 August 2008, Glasgow, Scotland [CD-ROM]*. IASP Press, s. No. PW 143

Fundamentals of musculoskeletal pain

Graven-Nielsen, T. (Redaktør), Arendt-Nielsen, L. (Redaktør) & Mense, S. (Redaktør), 2008, Seattle: IASP Press. 496 s.

Human models and clinical manifestations of musculoskeletal pain and pain-motor interactions

Graven-Nielsen, T. & Arendt-Nielsen, L., 2008, *Fundamentals of Musculoskeletal Pain*. Graven-Nielsen, T., Arendt-Nielsen, L. & Mense, S. (red.). Seattle: IASP Press, s. 155-187

Impact of clinical and experimental pain on muscle strength and activity

Graven-Nielsen, T. & Arendt-Nielsen, L., 2008, I: *Current Rheumatology Reports*. 10, 6, s. 475-481

Sensory and motor manifestations of muscle pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2008, I: *Journal of Musculoskeletal Pain*. 16, 1-2, s. 93-105

The sensory-motor integration in experimental musculoskeletal pain

Graven-Nielsen, T., 2008, *Abstracts of the 12th World Congress on Pain, International Association for the Study of Pain (IASP), 17-22 August 2008, Glasgow, Scotland [CD-ROM]*. IASP Press, s. No. TW 37

Exogenous muscle pain

Graven-Nielsen, T., 2007, *Encyclopedia of Pain*. Schmidt, R. F. & Willis, W. D. (red.). Berlin: Springer, Bind 1. s. 755-757

Forskelle i smerteperception hos mænd og kvinder

Graven-Nielsen, T. & Arendt-Nielsen, L., 2007, I: *Ugeskrift for læger*. 169, 25, s. 2425-2427

Reduced motor unit firing rate in synergist muscles during constant force painful contractions

Graven-Nielsen, T., Ervilha, U. F. & Hodges, P. W., 2007, *37th Annual Meeting of the Society for Neuroscience, Neuroscience 2007, 3-7 November 2007, San Diego, CA, USA*. s. No. 510.1/PP27

Referred muscle pain, assessment

Graven-Nielsen, T., 2007, *Encyclopedia of Pain*. Schmidt, R. F. & Willis, W. D. (red.). Berlin: Springer, Bind 3. s. 2103-2106

The interaction of musculoskeletal pain and motor control

Graven-Nielsen, T., 2007, I: *Journal of Musculoskeletal Pain*. 15, Suppl. 13, s. 10, No. 12

Assessing musculoskeletal pain

Graven-Nielsen, T., 2006, *Refresher Courses, Pain in Europe V, 5th Congress of the European Federation of IASP Chapters (EFIC), 13 September 2006, Istanbul, Turkey*. s. 62-66

Central sensitization in musculoskeletal pain

Graven-Nielsen, T., 2006, *6th Physiatric Summer School: Fibromyalgia, 15-16 September 2005*. Lindgren, K.-A. (red.). Helsinki: Rehabilitation ORTON Invalid Foundation, s. 15-19 (Uden navn).

Central sensitization, referred pain, and deep tissue hyperalgesia in musculoskeletal pain

Graven-Nielsen, T., Curatolo, M. & Mense, S., 2006, *Proceedings of the 11th World Congress on Pain*. Flor, H., Kalso, E. & Dostrovsky, J. O. (red.). IASP Press, s. 217-230

Fascial involvement in delayed onset muscle soreness

Graven-Nielsen, T., Gibson, W. & Arendt-Nielsen, L., 2006, I: *European Journal of Pain*. 10, Suppl. 1, s. S87, No. 326

Fundamentals of muscle pain, referred pain and deep tissue hyperalgesia

Graven-Nielsen, T., 2006, 43 s. (Scandinavian Journal of Rheumatology; Nr. vol.35(suppl.122)).

Muscle pain

Graven-Nielsen, T. & Arendt-Nielsen, L., 2006, *Wiley Encyclopedia of Biomedical Engineering*. Akay, M. (red.). Hoboken, NJ: Wiley, Bind 4. s. 2417-2424

Central sensitization, referred pain and deep tissue hyperalgesia in musculoskeletal pain

Graven-Nielsen, T., Mense, S. & Staud, R., 2005, *Abstracts. 11th World Congress on Pain, 21-26 August 2005, Sydney, Australia*. IASP Press

Sensations from skeletal muscle to mechanical stimulation

Graven-Nielsen, T., Mense, S. & Arendt-Nielsen, L., 2005, *Abstracts. 11th World Congress on Pain, 21-26 August 2005, Sydney, Australia*. IASP Press

Eksperimentel kortlægning af muskelsmerter

Graven-Nielsen, T. & Andersen, H., 2004, I: *Fysioterapeuten*. 22, s. 6-17

Non-painful and painful pressure sensation from skeletal muscle

Graven-Nielsen, T., Mense, S. & Arendt-Nielsen, L., 2004, I: *Journal of Musculoskeletal Pain*. 12, Suppl. 9, s. 24, No. 48

Painful and non-painful pressure sensations from human skeletal muscle

Graven-Nielsen, T., Mense, S. & Arendt-Nielsen, L., 2004, I: *Experimental Brain Research*. 159, 3, s. 273-283

Peripheral and central sensitisation in musculoskeletal pain

Graven-Nielsen, T., 2004, *25th Annual Scientific Meeting of the Australian Pain Society, 7-10 March 2004, Canberra, Australia*. s. 64, No. P4.1

Quantitative sensory testing in chronic widespread pain

Graven-Nielsen, T., 2004, *25th Annual Scientific Meeting of the Australian Pain Society, 7-10 March 2004, Canberra, Australia*. s. 63, No. 3D.3

Sensory-motor interaction in muscle pain

Graven-Nielsen, T., 2004, *25th Annual Scientific Meeting of the Australian Pain Society, 7-10 March 2004, Canberra, Australia*. s. 79, No. 4B.1

Experimental pain by ischaemic contractions compared with pain by intramuscular infusions of adenosine and hypertonic saline

Graven-Nielsen, T., Jansson, Y., Segerdahl, M., Kristensen, J. D., Mense, S., Arendt-Nielsen, L. & Sollevi, A., 2003, I: *European Journal of Pain*. 7, 1, s. 93-102 9 s.

Induction and assessment of muscle pain, referred pain, and muscular hyperalgesia

Graven-Nielsen, T. & Arendt-Nielsen, L., 2003, I: *Current Pain and Headache Reports*. 7, s. 443-451 8 s.

Interaction between muscle pain and motor control

Graven-Nielsen, T., Svensson, P. & Arendt-Nielsen, L., 2003, *Chronic Work-Related Myalgia: Neuromuscular Mechanisms behind Work-Related Chronic Muscle Pain Syndromes*. Johansson, H., Windhorst, U., Djupsjöbacka, M. & Passatore, M. (red.). Gävle University Press, s. 141-154

Experimental pain by intramuscular infusions of adenosine or hypertonic saline compared to pain by ischaemic contractions

Graven-Nielsen, T., Jansson, Y., Segerdahl, M., Kristensen, J. D., Mense, S., Arendt-Nielsen, L. & Sollevi, A., 2002, *Abstract Book of the Scandinavian Association for the Study of Pain, 25th Annual SASP Meeting, Aalborg, Denmark, 4-7 April*. s. 33, No. 1

Induction and assessment of muscle pain and the clinical applications

Graven-Nielsen, T., 2002, *Abstract Book of the Scandinavian Association for the Study of Pain, 25th Annual SASP Meeting, 4-7 April 2002, Aalborg, Denmark.* s. 29

Inhibition of maximal voluntary contraction force by experimental muscle pain: a centrally mediated mechanism

Graven-Nielsen, T., Lund, H., Arendt-Nielsen, L., Danneskiold-Samsøe, B. & Bliddal, H., 2002, *I: Muscle & Nerve.* 26, 5, s. 708-712

Is there a relation between intramuscular hypoperfusion and chronic muscle pain?

Graven-Nielsen, T. & Arendt-Nielsen, L., 2002, *I: Journal of Pain.* 3, 4, s. 261-263

Muscle pain induced by high intensity thermal stimulation

Graven-Nielsen, T., Arendt-Nielsen, L. & Mense, S., 2002, *10th World Congress on Pain, 17-22 August 2002, San Diego, CA, USA: IASP Abstract Book.* IASP Press, s. 20, No. 60-P56

Opioid-insensitive hypoalgesia to mechanical stimuli at sites ipsilateral and contralateral to experimental muscle pain in human volunteers

Graven-Nielsen, T., Gibson, S. J., Laursen, R. J., Svensson, P. & Arendt-Nielsen, L., 2002, *I: Experimental Brain Research.* 146, s. 213-222

Peripheral and central sensitization in musculoskeletal pain disorders: an experimental approach

Graven-Nielsen, T. & Arendt-Nielsen, L., 2002, *I: Current Rheumatology Reports.* 4, 4, s. 313-321

Thermosensitivity of muscle: high intensity thermal stimulation of muscle tissue induces pain in humans

Graven-Nielsen, T., Arendt-Nielsen, L. & Mense, S., 2002, *I: Journal of Physiology.* 540, 2, s. 647-656

Attenuation of maximal force during experimental muscle pain is centrally mediated

Graven-Nielsen, T., Lund, H., Arendt-Nielsen, L., Danneskiold-Samsøe, B. & Bliddal, H., 2001, *I: Journal of Musculoskeletal Pain.* 9, Suppl. 5, s. 16

Methods for induction and assessment of pain in humans with clinical and pharmacological examples

Graven-Nielsen, T., Sergerdahl, M., Svensson, P. & Arendt-Nielsen, L., 2001, *Methods in Pain Research.* Kruger, L. (red.). Boca Raton: CRC Press, s. 263-304 (Methods & New Frontiers in Neuroscience).

The peripheral apparatus of muscle pain: evidence from animal and human studies

Graven-Nielsen, T. & Mense, S., 2001, *I: The Clinical Journal of Pain.* 17, s. 2-10

Whiplash and symptom amplification: reply to R. Ferrari

Graven-Nielsen, T., Johansen, M. K., Olesen, A. S. & Arendt-Nielsen, L., 2001, *I: Pain.* 89, 2-3, s. 294-295

Effect of muscle pain on motor control: a human experimental approach

Graven-Nielsen, T., Svensson, P. & Arendt-Nielsen, L., 2000, *I: Advances in Physiotherapy.* 2, s. 26-38

Eksperimentel smerteforskning: et nyt forskningsområde

Graven-Nielsen, T. & Arendt-Nielsen, L., 2000, *I: Naturens Verden.* 83, 11-12, s. 44-53

Ketamine reduces muscle pain, temporal summation, and referred pain in fibromyalgia patients

Graven-Nielsen, T., Kendall, S. A., Henriksson, K. G., Bengtsson, M., Sörensen, J., Johnson, A., Gerdle, B. & Arendt-Nielsen, L., 2000, *I: Pain.* 85, s. 483-491

Quantitative analysis of reflex inhibition in single motor units in human masseter muscle: effects of stimulus intensity

Graven-Nielsen, T., Svensson, P., McMillan, A. S. & Arendt-Nielsen, L., 2000, *I: Muscle & Nerve.* 23, s. 259-266

Sensitivity to pressure stimuli in capsaicin-induced referred pain areas

Graven-Nielsen, T., Gibson, S., Svensson, P. & Arendt-Nielsen, L., 2000, *Pain in Europe : Third Congress of the European Federation of IASP Chapters, EFIC, September 26-30, 2000, Nice, France*. s. 213, No. PS1-066

Central hyperexcitability in fibromyalgia

Graven-Nielsen, T., Sørensen, J., Henriksson, K. G., Bengtsson, M. & Arendt-Nielsen, L., 1999, *Muscle Pain, Myofascial Pain, and Fibromyalgia: Recent Advances*. Vecchiet, L. & Giamberardino, M. A. (red.). New York: Haworth Press, s. 261-271

Ketamine attenuates experimental referred muscle pain and temporal summation in fibromyalgia patients

Graven-Nielsen, T., Aspegren-Kendall, S., Henriksson, K. G., Bengtsson, M., Sørensen, J., Johnson, A., Gerdle, B. & Arendt-Nielsen, L., 1999, *9th World Congress on Pain, August 22-27, 1999, Vienna, Austria*. IASP Press, s. 516, No. 39

SEMG in experimental and clinical muscle pain research

Graven-Nielsen, T., 1999, *Future Applications of Surface ElectroMyoGraphy : Proceedings of the fourth general SENIAM workshop, September 1999, 's Hertogenbosch, the Netherlands*. Hermens, H. J. & Freriks, B. (red.). Roessingh Research and Development, s. 85-90

Central hyperexcitability in fibromyalgia

Graven-Nielsen, T., Sørensen, J., Henriksson, K. G., Bengtsson, M. & Arendt-Nielsen, L., 1998, I: *Journal of Musculoskeletal Pain*. 6, Suppl. 2, s. 83

Effect of bite force on heteronymous H-reflexes in human temporalis muscle

Graven-Nielsen, T., Svensson, P., Laat, A. D. & Arendt-Nielsen, L., 1998, I: *Journal of Dental Research*. 77, Special issue B, s. 1005, No. 2992

Experimentally induced muscle pain induces hypoalgesia in heterotopic deep tissues, but not in homotopic deep tissues

Graven-Nielsen, T., Babenko, V., Svensson, P. & Arendt-Nielsen, L., 1998, I: *Brain Research*. 787, 2, s. 203-210

Muskelsmerte: eksperimentel muskelsmertes indflydelse på muskelfunktion

Graven-Nielsen, T., 1998, I: *Dansk Sportsmedicin*. 3, s. 6-9

Quantification of deep and superficial sensibility in saline-induced muscle pain: a psychophysical study

Graven-Nielsen, T., Fenger-Grøn, L. S., Svensson, P., Steengaard-Pedersen, K., Arendt-Nielsen, L. & Jensen, T. S., 1998, I: *Somatosensory and Motor Research*. 15, 1, s. 46-53

Effects of experimental muscle pain on muscle activity and co-ordination during static and dynamic motor function

Graven-Nielsen, T., Svensson, P. & Arendt-Nielsen, L., 1997, I: *Electroencephalography and Clinical Neurophysiology*. 105, s. 156-164

Experimental muscle pain: a quantitative study of local and referred pain in humans following injection of hypertonic saline

Graven-Nielsen, T., Arendt-Nielsen, L., Svensson, P. & Jensen, T. S., 1997, I: *Journal of Musculoskeletal Pain*. 5, 1, s. 49-69

In vivo model of muscle pain: quantification of intramuscular chemical, electrical and pressure changes associated with saline-induced muscle pain in humans

Graven-Nielsen, T., McArdle, A., Phoenix, J., Arendt-Nielsen, L., Jensen, T. S., Jackson, M. J. & Edwards, R. H. T., 1997, I: *Pain*. 69, s. 137-143

Modulation of static and dynamic muscle activity by experimental muscle pain in legs

Graven-Nielsen, T., Svensson, P. & Arendt-Nielsen, L., 1997, *Society for Neuroscience 27th Annual Meeting, 25-30 October 1997, New Orleans, LA, USA: Abstract Book, Vol. 23(2)*. s. 2354, No. 916.11

MRI and microdialysis for assessment of intramuscular biochemical following saline-induced muscle pain in humans
Graven-Nielsen, T., McArdle, A., Phoenix, J., Arendt-Nielsen, L., Jensen, T. S., Jackson, M. J. & Edwards, R. H. T., 1997, *20th Annual Meeting of the Scandinavian Association for the Study of Pain, SASP, April 17-20, 1997, Århus, Denmark.* s. 25

Ongoing muscle pain do not cause muscular hyperactivity

Graven-Nielsen, T., Svensson, P., Matre, D. A. & Arendt-Nielsen, L., 1997, *Pain in Europe: 2nd Congress of the European Federation of IASP Chapters, September 24-27, 1997, Barcelona, Spain.* s. 354

Quantification of local and referred muscle pain in humans after sequential i.m. injections of hypertonic saline

Graven-Nielsen, T., Arendt-Nielsen, L., Svensson, P. & Jensen, T. S., 1997, *I: Pain.* 69, s. 111-117

Sensory manifestations and sensory-motor interactions during experimental muscle pain in man

Graven-Nielsen, T., 1997, Aalborg: Center for Sensory-Motor Interaction (SMI), Department of Health Science and Technology, Aalborg University.

Stimulus-response functions in areas with experimentally induced referred muscle pain: a psychophysical study

Graven-Nielsen, T., Arendt-Nielsen, L., Svensson, P. & Jensen, T. S., 1997, *I: Brain Research.* 744, s. 121-128

Psychophysical assessment of thermal and mechanical stimuli applied to areas with referred muscle pain in humans

Graven-Nielsen, T., Arendt-Nielsen, L., Svensson, P. & Jensen, T. S., 1996, *Abstracts 8th World Congress on Pain, 17-22 August 1996, Vancouver, Canada.* IASP Press, s. 233, No. 52

Experimental muscle pain: motor and sensory aspects

Graven-Nielsen, T., 1995, *Symposium om patogenetiska mekanismer vid kronisk muskelsmärta, June 1995, Linköping, Sweden.*

Experimental referred muscle pain

Graven-Nielsen, T., Arendt-Nielsen, L., Svensson, P. & Jensen, T. S., 1995, *I: Journal of Musculoskeletal Pain.* 3, Suppl. 1, s. 7

Sensory aspects of experimental muscle pain

Graven-Nielsen, T., Arendt-Nielsen, L., Svensson, P. & Jensen, T. S., 1995, *Pain in Europe, Verona, Italy, May.* s. 71

Presse/medie

1,6 mio. kr. til smerteforskning på AAU

Arendt-Nielsen, L. & Graven-Nielsen, T.

07/12/2006

2 elementer af Mediedækning

Apples forskningsapp får lunken modtagelse af danske forskere

Graven-Nielsen, T.

16/03/2015

1 element af Mediedækning

Bestil en forsker hjem i stuen

Graven-Nielsen, T.

01/03/2021

1 element af Mediedækning

Chili hjælper på smerter

Graven-Nielsen, T.

09/10/2007
1 element af Mediedækning

Debat: Kroniske smerter: Skal svaret findes i hjernen?

Graven-Nielsen, T. & de Andrade, D. C.
17/03/2023
1 Mediebidrag

Debat: LIGESTILLING: Mænd kan sagtens være feminister

Graven-Nielsen, T.
04/08/2016
2 elementer af Mediedækning

Den elektriske kur

Graven-Nielsen, T.
30/04/2015
1 element af Mediedækning

Den elektriske kur

Graven-Nielsen, T.
30/04/2015
1 element af Mediedækning

Derfor falder vi

Graven-Nielsen, T.
27/02/2012
1 element af Mediedækning

Du kan blive overfølsom over for smerte

Graven-Nielsen, T., Skou, S. T. & Nielsen, T. G.
23/06/2013
15 elementer af Mediedækning

Dybe smerter kan skyldes plasticitet i centralnervesystemet

Graven-Nielsen, T.
01/02/2007
1 element af Mediedækning

Esben Lunde Larsen stolt af at være minister for AAU

Johansen, P. M., Rasmussen, L. H., Rosendahl, L. & Graven-Nielsen, T.
24/11/2015
1 element af Mediedækning

Et afklædt sundhedsvæsen... eller forskere i "forklædning"

Arendt-Nielsen, L. & Graven-Nielsen, T.
01/01/2013
1 element af Mediedækning

Europæisk pris til smerteforsker på Aalborg Universitet

Graven-Nielsen, T.
01/02/2008
1 element af Mediedækning

Feberramte møder på jobbet

Graven-Nielsen, T.
29/12/2014

1 element af Mediedækning

Fire nye professorer styrker AAU's sundhedsområder

Graven-Nielsen, T., Andersen, O. K., Farina, D. & Hejlesen, O.
01/06/2008

1 element af Mediedækning

Fiskeren, politiker og konsulen er med i "bogen"

Graven-Nielsen, T. & Munk, M. D.
23/05/2014

4 elementer af Mediedækning

Forskere giver forsøgspersoner tennisalbue for videnskabens skyld

Graven-Nielsen, T.
09/09/2015

3 elementer af Mediedækning

Forskning i smerter fra nervesystemet

Graven-Nielsen, T.
20/10/2014

1 element af Mediedækning

Funktionelle lidelser udfordrer lægevidenskabeligt paradigme

Graven-Nielsen, T.
23/01/2017

1 element af Mediedækning

Gennembrud i behandlingen af kroniske smerter på vej

Graven-Nielsen, T.
02/04/2024

1 element af Mediedækning

Gigtforeningen støtter 17 nye forskningsprojekter

Graven-Nielsen, T.
08/05/2013

3 elementer af Mediedækning

Global epidemi af kronisk smerte skal bekæmpes uden medicin

Boudreau, S. & Graven-Nielsen, T.
27/10/2017

6 elementer af Mediedækning

Han er bidd af at forske i, hvad smerter kan gøre for vores krop

Graven-Nielsen, T.
23/04/2021

2 elementer af Mediedækning

Hvad gør mest ondt?

Arendt-Nielsen, L. & Graven-Nielsen, T.
24/06/2007

1 element af Mediedækning

Hvordan klarer du influenza? Tager du den i stiv arm, eller klynker du? Svaret ligger i dit køn

Graven-Nielsen, T.
20/07/2017

1 element af Mediedækning

Hvorfor bliver jeg aldrig syg?

Graven-Nielsen, T.

09/12/2013

1 element af Mediedækning

Hvorfor bliver jeg aldrig syg?

Graven-Nielsen, T.

03/01/2020

1 element af Mediedækning

Hvorfor gør smerte mere ondt på nogle end på andre?

Graven-Nielsen, T.

11/08/2016

2 elementer af Mediedækning

Kontant belønning til Danmarks næste superstjerner på forskningshimlen

Graven-Nielsen, T.

07/10/2014

9 elementer af Mediedækning

Kroppen kan blive overfølsom over for smerte

Graven-Nielsen, T.

01/02/2007

1 element af Mediedækning

Kvinder har lavere smertetærskel end mænd

Graven-Nielsen, T.

07/02/2007

1 element af Mediedækning

Kvinder har lavere smertetærskel end mænd

Arendt-Nielsen, L. & Graven-Nielsen, T.

24/06/2007

1 element af Mediedækning

Lundbeckfonden uddeler 80 mio. kr. til tre hjerneforsknings-professorer

Graven-Nielsen, T.

20/12/2023 → 24/12/2023

2 elementer af Mediedækning

Millionstøtte til lægevidenskabelig forskning i Nordjylland

Arendt-Nielsen, L., Graven-Nielsen, T., Moos, T., Thorlacius-Ussing, O., Riahi, S. & Schmidt, E. B.

22/11/2018

1 element af Mediedækning

Minister: Slut med AAU-vækst i København

Graven-Nielsen, T.

24/11/2015

1 element af Mediedækning

Motor Unit Recruitment Strategies Are Altered during Deep-Tissue Pain

Graven-Nielsen, T.

02/09/2009

1 element af Mediedækning

Nakkesmerter sætter forskerne skakmat

Graven-Nielsen, T.

22/12/2016

2 elementer af Mediedækning

Navnenyt

Graven-Nielsen, T., Arendt-Nielsen, L., Andersen, O. K. & Jensen, W.

21/10/2014

1 element af Mediedækning

Nu kan man bestille en forsker til et gratis online foredrag

Graven-Nielsen, T.

25/02/2021 → 04/03/2021

8 elementer af Mediedækning

Nye ansættelser på AAU

Graven-Nielsen, T., Andersen, O. K., Farina, D. & Hejlesen, O.

02/05/2008

1 element af Mediedækning

Nye udnævnelser på Aalborg Universitet

Graven-Nielsen, T. & Hejlesen, O.

23/04/2008

1 element af Mediedækning

Ny forskning kan hjælpe hver femte voksne dansker til færre smerter

Graven-Nielsen, T.

23/03/2015

1 element af Mediedækning

Ny prodekan og forskerskoleleder

Graven-Nielsen, T.

29/02/2016

1 element af Mediedækning

Ny professor ved AAU

Graven-Nielsen, T.

06/04/2008

1 element af Mediedækning

Ny tvivl om bækkenløsning

Graven-Nielsen, T.

14/11/2014

1 element af Mediedækning

Ny tvivl om bækkenløsning

Palsson, T. & Graven-Nielsen, T.

01/06/2020

1 element af Mediedækning

Når smertesystemet går i selvsving

Arendt-Nielsen, L. & Graven-Nielsen, T.

01/08/2012

1 element af Mediedækning

Oplev 'Vin & Viden' på Kunsten: Nye perspektiver på smertehåndtering

Graven-Nielsen, T.

07/11/2024

1 element af Mediedækning

Prominent Pain Researcher at AAU Receives Prestigious European Grant

Graven-Nielsen, T. & de Andrade, D. C.

31/01/2023

1 element af Mediedækning

På sporet af smerten

Petersen, K. K., Frahm, S. & Graven-Nielsen, T.

18/04/2016

1 element af Mediedækning

Runde tal i morgen

Graven-Nielsen, T.

06/03/2020 → 07/03/2020

3 elementer af Mediedækning

Smerten spreder sig i dig

Graven-Nielsen, T.

09/09/2012

3 elementer af Mediedækning

Smertens veje og vildveje

Graven-Nielsen, T.

03/10/2014

1 element af Mediedækning

Smerteprofessor får Vanførefondens Forskerpris

Graven-Nielsen, T.

29/05/2013 → 29/05/2013

16 elementer af Mediedækning

Smertes er signaler - men hvad fortæller de os?

Graven-Nielsen, T.

02/06/2014

2 elementer af Mediedækning

Smerte skal behandles forskelligt

Arendt-Nielsen, L. & Graven-Nielsen, T.

19/06/2007

2 elementer af Mediedækning

Smerte smitter

Graven-Nielsen, T.

29/12/2009

2 elementer af Mediedækning

Smerte smitter

Graven-Nielsen, T.

30/12/2009

2 elementer af Mediedækning

Smerte smitter fra muskel til muskel

Graven-Nielsen, T.

29/12/2009

1 element af Mediedækning

Støtte til AAU-forskere

Lange, L., Gurevich, L., Fojan, P., Vollertsen, J., Nielsen, T. T., Graven-Nielsen, T., Jensen, K., Nielsen, E. H., Christiansen, E. T., Nielsen, B. N. & Roslev, P.

20/09/2011

4 elementer af Mediedækning

Tennisalbue påvirker hjernen

Graven-Nielsen, T.

20/09/2015

8 elementer af Mediedækning

Thomas Graven-Nielsen modtager forskningsbevilling

Graven-Nielsen, T.

08/10/2007

1 element af Mediedækning

Thomas Graven-Nielsen skal lede nyt center

Graven-Nielsen, T.

21/10/2014

1 element af Mediedækning

To nye chefer på plads på AAU

Andersen, O. K. & Graven-Nielsen, T.

20/02/2016

4 elementer af Mediedækning

Tre hjerneforskningsprofessorer får i alt 80 millioner kroner

Graven-Nielsen, T.

02/01/2024

1 element af Mediedækning

Undskyld, må vi påføre dig smerte?

Graven-Nielsen, T.

01/12/2018

2 elementer af Mediedækning

Aabybro Bibliotek får besøg af smerteforsker

Graven-Nielsen, T.

20/04/2019

2 elementer af Mediedækning

Aalborgensisk smertensbarn lancerer første produkt

Arendt-Nielsen, L. & Graven-Nielsen, T.

19/01/2017

1 element af Mediedækning

Aalborg-forskere er verdensberømte for at påføre folk smerte

Graven-Nielsen, T. & Boudreau, S.

30/10/2017 → 30/10/2017

3 elementer af Mediedækning

AAU arrangerer forskertræf

Arendt-Nielsen, L. & Graven-Nielsen, T.

24/07/2006

1 element af Mediedækning

AAU styrker det sundhedsvidenskabelige område

Graven-Nielsen, T., Farina, D., Hejlesen, O. & Andersen, O. K.

05/04/2008

1 element af Mediedækning