With pleasure

BUENOS AIRES

Hosts the 15th World Congress on Pain

Also in this issue:
- FROM NUN TO NOBEL NOMINEE
- HOW THE JOHN J. BONICA FELLOWSHIP CHANGES LIVES
- WHAT YOU NEED TO KNOW ABOUT OROFACIAL PAIN IN THIS GLOBAL YEAR
Need a Good Reason to Visit Buenos Aires?
Join these plenary speakers at the World Congress on Pain, October 6-11, 2014

John J. Bonica
Distinguished Lecture
M. Catherine Bushnell, PhD, National Center for Complementary and Alternative Medicine, NIH (USA)

Ronald Melzack Award Lecture
The Role of Endogenous Pain Modulation in Chronic Pain Mechanisms and Treatment
David Yarnitsky, MD, Rambam Medical Center (Israel)

John D. Loeser
Distinguished Lecture
Lilliana De Lima, MHA, International Association for Hospice and Palliative Care (USA)

Transduction in Sensory Neurons
Ardem Patapoutian, PhD, The Scripps Research Institute and Howard Hughes Medical Institute (USA)

Protecting the Body: Cortical Mechanisms of Threat Detection and Pain
Gian Iannetti, MD, PhD, University College London (United Kingdom)

Sleep and Pain in mild Traumatic Brain Injury (mTBI) Patients
Gilles Lavigne, DMD, PhD, University of Montreal (Canada)

Central Mechanisms of Pathological Pain
Rohini Kuner, PhD, University of Heidelberg (Germany)

Neuropathic Pain: Where Are We With Our Drug Treatments and Algorithms?
Nadine Attal, MD, PhD, U 987 INSERM and APHP (France)

Epidemiology and Societal Impact of Neuropathic Pain
Blair Smith, Med, MD, FRCP, FRCGP, University of Dundee (United Kingdom)

Chronic Pain, Conditioning, and Exposure: Current Concepts and Future Directions
Johannes Vlaeyen, PhD, University of Leuven (Belgium)

New Lipid Kinase that Regulates Nociceptive Signaling and Sensitization
Mark Zylka, PhD, University of North Carolina at Chapel Hill (USA)

Understanding Central Pain Processing
Martin Ingvar, PhD, MD, Karolinska Institute (Sweden)

Epigenetic Mechanisms Underlying Chronic Pain State
Minoru Naito, PhD, Hoshi University (Japan)

Migraine Genetics
Arn van den Maagdenberg, PhD, MD, MGC, Leiden University Medical Center (Netherlands)

Complex Regional Pain Syndrome (CRPS) – Disentangling Its Complexity
Frank Birklein, MD, PhD, University Medical Center of Johannes Gutenberg-Mainz (Germany)

Social Modulation of and by Pain in Laboratory Rodents and Humans
Jeffrey Mogil, PhD, McGill University (Canada)

Pharmacotherapy for Pain Treatment: Efficacy and Safety Issues
Albert Dahan, MD, PhD, Leiden University (Netherlands)

Central Mechanisms Underlying Visceral Pain
Emeran Mayer, MD, UCLA Center for Neurobiology of Stress (USA)

Knowledge Translation in Pain: Building the Bridge Between Discovery and Impact
Anna Taddio, PhD, University of Toronto (Canada)

Register today at www.iasp-pain.org
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Visit to Pain Clinics in Myanmar and Thailand Highlights the Promise of an IASP Training Grant

BY TROELS S. JENSEN

The Myanmar Society for the Study of Pain (MSSP) received an IASP educational grant for developing countries in 2013. The society used the funds to organize and conduct two five-day courses, “Training the Trainers on Pain.” The first sessions took place in November 2013 in Yangon and the second in Mandalay, which is the country’s second largest city, with about three million inhabitants. It is also the location of one of the country’s four medical schools.

In February 2014, I visited the Mandalay training course as well as the IASP-supported pain education center at Siriraj Hospital in Bangkok, Thailand. The course in Mandalay was organized by MSSP President Myint Thaung and President-elect Khin Myo Hla, together with local professors. Its 30 participants were medical residents in different disciplines: rehabilitation medicine, internal medicine, neurology, anesthesia, psychiatry, and oncology. In addition, two pharmacists and 14 nurses from different wards also participated.

Three international speakers were invited: Prof. Pradit Prateepavanich from Thailand, Prof. Cynthia Goh from Singapore, and me. The course included lectures on a wide range of topics, such as physiology, pain assessment, cancer pain, opioid treatment, psychological pain management, acute and chronic postoperative pain, and pain in the elderly. An entire day was reserved for case presentations on oncology, neurology, and rehabilitation medicine at Mandalay General Hospital. My impression was that the course was very well received and that organizers made a wise decision to conduct the course in the country’s two largest cities.

The pain clinic at Siriraj Hospital in Bangkok, now headed by Dr. Wanna Sironajakul, is well-developed. The hospital is one of the largest in Southeast Asia, if not the largest. Seeing Wanna was my main reason to visit. Wanna is an active and competent person who has other duties aside from running the clinic. Nevertheless, she has managed to organize its programs efficiently, with assistance from the hospital’s department of anesthesia, within which the pain clinic oper-
uates. Wanna is assisted by four consultants and three residents, or junior doctors, so that each patient may be seen by one doctor and always with a supervising doctor available. The pain clinic is new and very well equipped by Western standards, thanks to a major grant from one of the country’s richest families.

IASP and the World Federation of Anesthesiological Societies have supported one-year fellowships at the hospital for several years, with participants coming from different parts in the region—Bhutan, Laos, Vietnam, Nepal, and Myanmar—as well as from Mongolia. The program is rather impressive: On alternating Wednesdays, it has grand rounds or journal clubs run by the residents in the clinic. Every Tuesday, the pain fellows prepare a half-hour talk, usually as a PowerPoint presentation, on a specific pain topic.

The fellow for 2013-14 is Dr. Marlar Thin from Yangon. Marlar is a qualified anesthesiologist in her fifth year of a PhD program in Yangon (paused while she is on leave for the Bangkok pain course). In February, she had been in Bangkok for eight months. When the program ends this summer, she will head home to see her two children, 5 and 10 years-old, who are under the care of their grandparents, and her husband, an active surgeon. Her small salary covers her living costs, and the IASP grant finances a dormitory room for her to share with another woman. Marlar is very determined, works hard, and hopes she can use her learned skills when she goes home. She says she is grateful to IASP for giving her the opportunity to go to Thailand for this pain program.

World Health Assembly Adopts Historic Resolution on Palliative Care

The World Health Assembly (WHA) has approved a landmark resolution that urges member states to “create or strengthen... health systems that include palliative care as an integral component of the treatment of people within the continuum of care.” At the annual WHA meeting in Geneva, delegates recommended that member states integrate policies and programs into their health systems in cost-effective and equitable fashion across the continuum of care at all levels, especially in primary, community, and home-based facilities and universal coverage schemes.

The resolution, “Strengthening of palliative care as a component of comprehensive care throughout the life course,” urges states to implement nine initiatives. Among them: ensure funding for education and training programs; assess domestic palliative care needs, including pain management medication requirements; support the availability and appropriate use of essential medicines, including controlled substances; and revise legislation and policies on controlled substances in line with United Nations international drug-control conventions.

Further, the resolution issues a dozen requests to the Director General of the World Health Organization and requests a progress report at the 2016 World Health Assembly. Among the requests are (1) to ensure that palliative care is an integral component of all relevant global disease control and health system plans; (2) to update or develop evidence-based guidelines and tools on pain management options in adults and children and ensure these are adequately disseminated; and (3) to monitor the global situation of palliative care and evaluate progress of different initiatives and programs.

The World Health Assembly is the decision-making body of the World Health Organization. Detailed coverage of the discussions, held May 19-24, appear in the newsletter of the International Association for Hospice and Palliative Care.
IASP Education Grant to Pakistan Helps Nurses Relieve Pain

In Pakistan, qualified anesthesiologists are a scarce commodity. Providing effective acute pain management services (APMS) for postoperative pain relief and for trauma victims with acute pain requires registered nurses to spend substantial time with patients. Of course, nurses are now recognized as integral members of APMS teams the world over, with many centers running nurse-based acute pain management programs. This is true at Aga Khan University (AKU) in Karachi, where they are not only trained for APMS but take regular refresher courses to upgrade their knowledge.

Last year, AKU won a grant of nearly US$10,000 for the 2013 IASP Developing Countries Project: Initiative for Improving Pain Education. Dr. Gauhar Afshan, chairman and associate professor in the Department of Anesthesiology at AKU, recently submitted a final report for the project, “Nurse-Based Acute Pain Management, Basic Certificate Course,” which took place last October at AKU.

The heads of anesthesiology departments of different teaching hospitals in Hyderabad, Nawabshah, and Karachi had nominated experienced registered nurses from their own hospitals who were routinely involved in managing patients with acute pain to attend the course. Twenty-nine nurses from four hospitals were chosen.

At the end of the course, participants from the four hospitals were able to:
- Demonstrate an understanding of the anatomy, physiology, pathophysiology, and pharmacology of acute pain
- Describe methods of pain assessment in patients of different age groups
- Describe the various pain-management modalities
- Enumerate and describe the different interventions for postoperative pain management
- Enumerate the complications of the interventions for postoperative pain management
- Describe the management of these complications
- Enumerate the hurdles in setting up acute pain-management services and describe the steps to overcome them
- AKU staff members plan to conduct an audit of the course in November to see how effectively the surgical wards in the four hospitals conduct APMS. Subsequently, they hope to design a data-collection form that will enable them to measure outcomes and assess the program.

In addition, they hope to conduct the same course in other cities in Pakistan. Unfortunately, there is a desperate need for nurse-based acute pain services in that country, and government funds and other funding avenues are scarce. Nevertheless, the participants say the course was a wonderful opportunity that supports all who are struggling to provide cost-effective health-care programs.
With pleasure
BUENOS AIRES HOSTS
15th WORLD CONGRESS ON PAIN

International pain experts to convene in the “Paris of the South.”

For the first time in its 40-year existence, IASP will welcome the world’s most esteemed pain scientists and clinicians to Latin America for the World Congress on Pain. Buenos Aires will be in its October springtime bloom, ready to offer a unique cultural bouquet to Congress participants from around the globe.

IASP volunteers on the Scientific Program Committee have spent many months planning a compelling program for the World Congress. The group has recruited and worked with an outstanding faculty to fashion an array of sessions for researchers and specialists interested in updating their skills and knowledge as well as for those just entering the field. There simply is no better opportunity to meet personally with the world’s leading pain experts.

The World Congress program offers the following types of sessions:

Refresher Courses
A series of full-day Refresher Courses, held just before the official opening of the Congress, will provide up-to-date information on specialized topics in pain research and treatment. Participants will receive a compendium of scientific papers encompassing the entire series of Refresher Courses.
Distinguished Lectures
IASP bestows two of its highest honors at the Congress by awarding two long-time association members the opportunity to deliver the John J. Bonica Distinguished Lecture or the John D. Loeser Distinguished Lecture. IASP also awards the Ronald Melzack Lecture to acknowledge the scientist's seminal work and key contributions in pain research.

M. Catherine Bushnell, Ph.D., is the John J. Bonica Distinguished Lecture Award recipient. She will discuss her seminal work using brain imaging and psychophysical testing to study the neural basis of pain perception. Lilliana De Lima, MHA, will deliver the John D. Loeser Distinguished Lecture. De Lima was selected because of her substantial contributions to improving pain management and quality of life in terminal patients by advancing hospice and palliative care programs, education, and research around the world. David Yarnitsky, MD, the Ronald Melzack Lecture Award recipient, will discuss his research on pain in the aspects of measurement, mechanism and therapy, migraine, autonomic disorders, and cerebrovascular disorders.

Plenary Sessions
In addition to the three distinguished lecturers, 16 internationally known scientists will discuss research relevant to basic scientists and clinicians during the plenary sessions throughout the Congress.

Topical Workshops
Eighty-five small-group workshops on a broad spectrum of topics will provide opportunities to discuss your concerns with your peers and learn from leaders in the field. Most sessions will include viewpoints from three speakers.

Poster Sessions
Approximately 2,000 poster abstracts will be presented during dedicated sessions every morning and afternoon. The poster presenters will be available to discuss what their research means for your own.

Satellite Symposia
Satellite symposia allow in-depth presentations and discussions on a specific research or educational topic. These symposia take place immediately before and after the Congress. See the next page for a list of SIG-sponsored symposia.

To help attendees tie the Congress experience together, IASP for the first time is offering a smartphone app. In addition, an online Congress Itinerary and Program Planner gives participants a great way to view abstracts and create a personal schedule of sessions before arriving in Buenos Aires.

The Congress will feature several special events. All IASP members and other interested individuals are encouraged to attend the general assembly and business meeting. Most SIGs will hold business meetings, and networking events will offer good opportunities to meet people and build social and professional networks. For example, the Welcome Reception is open to all delegates, and a reception exclusively for trainee delegates will give young researchers, students, and interns an opportunity to meet and interact with a select group of well-known pain researchers. And IASP has arranged for several custom tours of Buenos Aires and Argentina.

Additionally, Connection Rx will afford trainees time to connect with mentors in a “flash style” meet-and-greet in which they have five minutes to talk with leading experts in the field of pain and be exposed to many different specialties. Finally, several Congress exhibitors will host lunchtime and evening talks. These symposia offer additional insights into pain-related topics.

As is the case with every World Congress, the 15th World Congress on Pain promises to deliver an outstanding scientific program. This October in Buenos Aires, Congress delegates will find indelible cultural experiences in a city pulsating with diverse neighborhoods, steeped in a compelling history, and adorned with stunning architecture. And there's always great steak, tango, and fútbol.
SIGs Sponsor Satellite Symposia and Topical Workshops at the World Congress on Pain

**Satellite Symposia**

Satellite symposia incorporate in-depth presentations and discussions on a specific research or educational topic. These symposia take place immediately before and after the Congress. IASP does not oversee their content and does not offer continuing education credit for them. Dates, locations, and registration information for these programs appear on our website.

- **SIG on Acute Pain** Faces in the Crowd: Variability and Diversity in Acute Pain Control
- **SIGs on Genetics and Pain, Orofacial Pain, and Sex, Gender and Pain** Complex Persistent Pain Conditions: Common and Unique Pathways of Vulnerability
- **SIG on Neuromodulation** Advances in Neuromodulation: From Molecules to Functional Outcomes
- **SIG on Neuropathic Pain and the Chilean Association for the Study of Pain** Painful Polyneuropathies
- **SIG on Pain and Pain Management in Non-Human Species** From Stem Cells to Meta-Analysis: A Broad Picture of Modern Approaches to Preclinical Pain Research
- **SIG on Placebo** Placebo Analgesia: Mechanisms, Models and Applications

**Topical Workshops**

- **SIG on Abdominal and Pelvic Pain** Peripheral Mechanisms of Visceral Pain in Irritable Bowel Syndrome, G. Boeckxstaens, S. Brierley, N. Vergnolle
- **SIG on Acute Pain** Brain-Based Classification Algorithms for Acute and Chronic Pain, J. Labus, S. Mackey, I. Tracey
- **SIG on Cancer Pain** Pain in Survivors: A New Life after Cancer Treatment, K. Andersen, J. Paice, B. Schmidt
- **SIG on Clinical Trials** Big Pain Data: Applying Experimental and Biological Approaches in High-Throughput Epidemiological Studies, S. Bruehl, C. Nielsen, K. Siblele
- **SIG on Genetics and Pain** Does Sex Matter? Sex X Gene Interactions in Human Pain, I. Belfer, L. Diatchenko, C. Nielsen
- **SIG on Musculoskeletal Pain** Pain in Arthritis: Pivotal Role of Neural-Immune Interactions, M. Malcangio, S. Svensson, H. Schaible
- **SIG on Neuromodulation** Spinal Cord Stimulation in Chronic Pain: Advances in Technology and Outcome, S. Eldabe, B. Joosten, R. Levy, M. Van Klee
- **SIG on Neuropathic Pain** Scientific and Clinical Value of Standardized Quantitative Sensory Testing, D. Bouhassira, P. Hansson, C. Maier
- **SIG on Orofacial Pain** Varying Approaches to Classification of Headache and Orofacial Pain, D. Nixdorf, C. Sommer, J. Zakrzewska
- **SIG on Pain in Childhood** Understanding Infant Pain: Biological, Psychological, Social, and Ethical Barriers, M. Fitzgerald, R. Pillai Riddell, C. Bellieni
- **SIG on Pain Education** Interprofessional Pain Education: Core Curriculum, Core Competencies, and Evaluation Methods, S. Fishman, D. Gordon, J. Watt-Watson
- **SIG on Pain in Movement** Physical Activity and Chronic Pain: From Cells to Systems and Beyond, M. Bement, K. Sliuka, G. Rovner
- **SIG on Pain in Older Persons** Maximizing Effectiveness of Pain Interventions in Older Adults, K. Herr, M. Nicholas, C. Reid, P. Schofield
- **SIG on Pain and Placebo** Placebo Analgesia: Understanding the Mechanisms to Target Better Therapeutic Strategies, C. Buchel, L. Colloca, J. Zubieta
- **SIG on Sex, Gender, and Pain** Sex and Gender Differences in Pain and Analgesia Across the Lifespan, C. Chambers, A. Dahan, R. Fillingim, E. Keogh
- **SIG on Torture, Organized Violence, and War** The Clinical Management of Torture Survivors and the Duties of Health-Care Professionals, K. Amris, K. Craig, A. Williams
1 Visit Plaza de Mayo. The Plaza De Mayo is the centerpiece and symbolic heart of Buenos Aires. This public square is situated in front of the Casa Rosada, or “Pink House,” the official seat of the executive branch of government and office of the president. Former First Lady Eva Perón helped make the Casa Rosada famous with her rallying speeches given from one of its balconies. At the center of the plaza is the Pirámide de Mayo, which commemorates the revolution of May 1810. And on the far side are the National Museum of the Cabildo (old town hall), the Banco de la Nación and the Metropolitan Cathedral.

2 Explore vibrant La Boca. Working class La Boca retains much of the flavor of its original settlers from Genoa, Italy. The district’s main attraction is Caminito, a pedestrian zone featuring cafés, Argentine restaurants, artists, and shops selling locally made handicrafts. Many buildings in this waterfront district are brightly painted, offering perfect photo opportunities.

3 Enjoy old world glamor in Recoleta. Known for its wide, leafy avenues and opulent homes, Recoleta is Buenos Aires’ most upscale barrio. A leisurely stroll through Recoleta Cemetery should be on every visitor’s to-do list. The elaborate above-ground tombs, marble-walled alleys and stunning statuary give it a museum-like quality. The city’s elite—from poets to diplomats—are laid to rest here, including Eva Perón, whose crypt attracts hordes of tourists.

4 Treasure hunt in San Telmo. Bohemian San Telmo has evocative Spanish-colonial architecture and narrow cobblestone lanes. On Sundays, a huge flea market attracts thousands of tourists and locals alike. Centered around Plaza Dorrego, the market stretches for nearly a mile.
down the street and is filled with people selling everything from antiques to food.

5 Witness the passion of tango. Argentina’s most famous cultural contribution to the world is the sensuous dance, the tango. Whether at a casual outdoor café or at a lavish dance hall, all visitors to Buenos Aires simply must see a show. For those who are a bit adventurous, dance lessons are widely available.

6 Shop on Calle Florida. This pedestrian street, located in the Microcentro (downtown) and only a block away from Plaza de Mayo, offers countless stores selling everything from souvenirs and clothing to electronics and Argentine leather.

7 Travel down Avenida 9 de Julio. The widest avenue in the world, Avenida 9 de Julio is 460-feet wide and has up to seven lanes in each direction. Added to these are up to four additional lanes of parallel streets. The avenue’s name honors Argentina’s Independence Day of July 9, 1816. At the center is a giant obelisk, one of the city’s most recognizable landmarks. Nearby is Teatro Colón, one of the world’s finest and most elegant opera houses.

8 Relax in Puerto Madero. Once a dilapidated warehouse district, Puerto Madero is now home to high-rise apartments, waterfront restaurants, and office buildings. A pedestrian bridge, Puente de la Mujer (Woman’s Bridge) links Puerto Madero to the Microcentro and was designed by renowned Spanish architect, Santiago Calatrava.

9 Experience a game of fútbol. Tango isn’t the only thing Argentines are passionate about. Watching a game of fútbol here is an unforgettable experience. The two primary teams in Buenos Aires are fierce rivals — the Club Atlético River Plate and the Club Atlético Boca Juniors.

10 Enjoy the culture of Palermo. By day, Palermo offers many sprawling parks, a planetarium, a zoo, and several world-class museums. One of its main draws, the Museo de Arte Latinoamericano de Buenos Aires (MALBA), houses more than 200 works of 20th century Latin American art. By night, Palermo is home to fashionable cafés, bars, and nightclubs.

(From https://studyan-diveinba.wordpress.com/2012/02/15/10-must-see-places-in-buenos-aires/)
Orofacial Pain: Recent Advances in Assessment, Management, and Understanding of Mechanisms
Barry J. Sessle
(2014, 496 pages)
Members $125 Nonmembers $155

When it comes to mechanisms, diagnosis, and management of acute and chronic orofacial pain, no book is more comprehensive than *Orofacial Pain*. With 54 leading pain specialists documenting the latest research advances and treatments, this book is the new standard resource for understanding, assessing, and managing all aspects of orofacial pain.

Pain 2014: Refresher Courses From the 15th World Congress on Pain
Srinivasa Raja and Claudia Sommer, editors
(2014)
Members $50 Nonmembers $50

This compendium of benchmark papers summarizes the status of pain research and management worldwide. Presented by the world’s top pain scientists and clinicians at the World Congress on Pain in Buenos Aires, these papers are now available to anyone who could not attend.

Sickle Cell Pain, Second Edition
Samir Ballas
(2014, 752 pages)
Members $155 Nonmembers $185

A panoramic, in-depth exploration of every scientific, human, and social dimension of this cruel disease, this comprehensive, definitive work is the only book devoted to sickle cell pain, as opposed to general aspects of the disease.

Pain Models: Translational Relevance and Applications
Hermann O. Handwerker and Lars Arendt-Nielsen
(2013, 450 pages)
Members $105 Nonmembers $130

The neurobiology and mechanisms discovered in animals often do not translate to patients with a chronic pain condition. To help researchers and clinicians develop and use models that can help translate data from animals into humans, international experts explain pain models at different levels, with commentaries that directly address clinical perspectives.

Headache and Pain
Ralf Baron and Arne May
(2013, 265 pages)
Members $65 Nonmembers $85

Headache and other types of pain have some common characteristics concerning pain generation and chronicity, though some distinct pathophysiological processes are unique to the headache. This book explores pain mechanisms, diagnosis, and management of headache and other chronic pain and represents the current state of scientific discussions in the respective fields.

Pain Comorbidities: Understanding and Treating the Complex Patient
Maria Adele Giamberardino and Troels Staehelin Jensen
(2012, 518 pages)
Members $70 Nonmembers $85

This book reviews the clinical presentation and management of interactions among a wide range of medical conditions. It is a must-have volume for general practitioners, clinical psychologists, medical students, nurses, clinical investigators, and clinicians who treat chronic pain patients.

WATCH FOR THESE NEW TITLES COMING FROM IASP PRESS IN FALL 2014!

Fordyce’s Behavioral Methods for Chronic Pain and Illness
Republished with invited commentaries edited by Chris J. Main, Francis J. Keefe, Mark P. Jensen, Johan WS Vlaeyen, and Kevin E. Vowles
This book identifies fear of movement and injury as a primary issue in chronic pain management. It provides a detailed treatment manual on exposure-based techniques for the reduction of pain-related fear and disability in chronic pain. Includes a disc with therapist and patient materials and videos.

**Pain-Related Fear: Exposure-Based Treatment for Chronic Pain**
Johan W.S. Vlaeyen, Stephen J. Morley, Steven J. Linton, Katja Boersma, and Jeroen de Jong
(2012, 196 pages)
*Members $60 Nonmembers $75*

Learn about the physiological, neurophysiological, and psychological aspects of the mechanisms and treatment of pain and new research on the influence of age and gender on the perception of pain. Also, information on the basic mechanisms of analgesia in terms of pharmacological and nonpharmacological treatments.

**The Phenomenon of Pain**
Serge Marchand
(2012, 356 pages)
*Members $55 Nonmembers $70*

This book integrates current psychological understanding with biomedical knowledge about chronic pain and includes recommendations for a structured assessment plan. Using detailed treatment protocols and case examples, the authors guide clinicians in developing individualized treatments for chronic pain patients. A CD includes sample documents and worksheets with detailed assessment methods and treatment protocols.

**Chronic Pain: An Integrated Bio-Behavioral Approach**
Herta Flor and Dennis C. Turk
(2011, 547 pages)
*Members $75 Nonmembers $95*

This in-depth analysis of basic and clinical research on cancer pain describes its underlying mechanisms and reviews opioid treatment issues. It discusses current drug trials and research, clinical trial designs, common reactions (including inflammation and hyperalgesia), the psychology of cancer pain, and disparities in the availability of cancer care worldwide.

**Cancer Pain: From Molecules to Suffering**
Judith A. Paice, Rae F. Bell, Eija A. Kalso, and Olaitan A. Soyannwo
(2010, 354 pages)
*Members $60 Nonmembers $75*

This authoritative book includes mechanisms of drug actions, clinical aspects of drug use, and new developments. It describes the different systems involved in the perception, transmission, and modulation of pain and discusses options for pharmacological treatment of pain.

**Pharmacology of Pain**
Pierre Beaulieu, David Lussier, Frank Porreca, and Anthony Dickenson
(2010, 622 pages)
*Members $80 Nonmembers $100*

This book is a comprehensive textbook for physical therapy students and practicing physical therapists in the management of pain. It covers the basics of pain neurobiology and reviews evidence on the mechanisms of action of physical therapy treatments, as well as their clinical effectiveness in specific pain syndromes.

**Mechanisms and Management of Pain for the Physical Therapist**
Kathleen A. Sluka
(2009, 394 pages)
*Members $70 Nonmembers $90*

**Postoperative Pain: Science and Clinical Practice**
Oliver Wilder-Smith, Lars Arendt-Nielsen, David Yamitsky, and Kris Vissers

**Pelvic-Abdominal Pain: Definition and Best Practice**
Bert Messelink, Andrew Baranowski, and John Hughes

**Muscloskeletal Pain: Basic Mechanisms and Implications**
Thomas Graven-Nielsen and Lars Arendt-Nielsen

www.iasp-pain.org/books
From Nun to Nobel Nominee

BY SHELLEY ENARSON

Outside the Hospice Africa Uganda (HAU) complex in Makindye, Kampala, the street is occupied with small wooden chappati stands, a country club, and a quaint coffee shop that also sells hamburgers and French fries. Twenty years ago, bullet-ridden homes along the same street told the story of Uganda’s two-decade-long civil war. A pervasive military presence and barracks occupied Makindye then, and there were no country clubs or French fries in the vicinity.

When Professor Dr. Anne Merriman first looked for a facility in 1993 to care for Kampala’s destitute and those dying from HIV/AIDS and cancer, a house left vacant with 20 tons of bat feces in the roof seemed like the perfect fixer-upper. In a neighborhood that appeared to be a post-conflict hazard, she saw a potential haven from which pain relief could flourish.

Indeed it has. Today, Kampalites from across the city, rich and poor alike, know where “Hospice” is, a word usually spoken with a quiet, reverent undertone. They may not be able to articulate the ethos behind its services, but they know it as a place that provides peace and comfort for those nearing the end of life. Over the last 20 years, their loved ones have likely been among the 21,000 patients HAU has serviced—a relatively small number by public health standards. But for Merriman, who has been practicing medicine for five decades, it’s not about numbers—it’s about the quality of care each of these patients receives.
In Africa and throughout the world, Dr. Anne Merriman has advocated for effective palliative care and greater access to a simple solution of oral morphine as an affordable form of pain control.

Now she is a Nobel Prize nominee.

Merriman’s life work in establishing HAU as a center of excellence in palliative care has earned her consideration for this year’s Nobel Peace Prize. The prestigious nomination is in recognition for her bringing a simple solution of oral morphine to Africa as an affordable form of pain control, coupling it with holistic palliative care services. However, for affordable oral morphine to get off pharmaceutical shelves into patients’ hands, Merriman knows that a major policy shift must take place in how it is prescribed and who has access to it.

The origins of palliative care advocacy in Africa

During the apex of the AIDS epidemic, tens of thousands of Ugandans lay bedridden in their villages—not only in pain but also wrapped in shame from societal accusations of bewitchment, as the cause of AIDS was not clearly understood. Hospitals turned patients away as new cases overloaded their ability to serve their communities. For many Ugandans, this was not only a death sentence; it was also a sentence of excruciating pain with no relief in sight.

“Like most countries around the world today, morphine prescriptions could only be administered by a registered practitioner, such as a doctor or surgeon,” recalls Dr. Jack Jagwe, the founding chair of the National Drug Authority (the drug regulatory body of Uganda). To leave morphine prescriptions in the exclusive hands of the few doctors in the country meant that pain relief would only reach a privileged sliver of the population.

Together, Merriman and Jagwe decided to persuade Uganda’s highest legislative bodies to allow clinical officers and nurses to prescribe morphine so that the supply addressed as much of the demand as possible.

The two worked hand-in-hand: Jagwe tapping his influence as chair of the Ministry of Health committee, which formulated the National Drug Policy; Merriman relentlessly advocating for oral morphine to be produced locally and cheaply, while simultaneously treating patients and modeling a novel ethos of patient care in Africa.

“As Uganda was already a signatory to the
international convention on the use of morphine of 1961 and the amendment on psychotropic drugs of 1972,” says Jagwe, “it was required to abide by these conventions. Therefore, morphine was already available in the country in the form of injections and tablets. What Merriman’s introduction of liquid oral morphine did was make pain relief affordable for the Ugandan Ministry of Health to provide it free of charge to patients in need.”

Training a continent’s workforce
Merriman envisioned HAU as a place where the patient’s comfort is a priority in care and where Africa’s future health workforce could receive accredited palliative care training. With the doctor-to-patient ratio standing at 1 to 24,000 when Merriman arrived on the scene in Uganda, this was no small challenge.

It quickly became apparent that international attention to mortality rates of non-communicable diseases was growing; estimates now run as high as 29 million annually in low and middle-income countries. What’s more, the World Health Organization projects the largest increases in such deaths will occur in Africa by 2020. To Merriman, professional training in palliative care was an obvious priority.

In 2009, Merriman took a visionary step in anticipation of what it would take should palliative care be integrated into global health work plans. With this in mind, the Institute of Hospice and Palliative Care in Africa (IHPCA) set out to train Africa’s workforce to meet the demands of patients that curative measures could no longer treat.

Today, the IHPCA is the largest and most established academic palliative care institution on the continent, offering short courses in English and French and internationally accredited degree programs. Students receive training from specialist instructors in oncology, radiotherapy, and surgery, and the curative part of the curriculum is coupled with culturally appropriate training in symptom control and approaches to psychological, social, and spiritual care.

As palliative care grows as an evidence-based discipline, Merriman remains resolute to ensure that students graduating from the IHPCA program retain a deep understanding of the spirituality and ethos behind hospice services.

At HAU, doctors and nurses are encouraged to avoid becoming complacent or calloused to patient suffering. The white coat remains in an office as the palliative care provider sits on the patient’s mattress, listening to earnest worries and deepest wishes. With sensitivity to the patient’s physical cues and demeanor, the provider offers spiritual support and salves the patient’s pain through dialogue and prayer when this is solicited. Caregivers are comforted as well, as such psychosocial support is intentionally inclusive of family members. In the last days and hours, the patient feels safe, the family shielded from false hope and distressing memories. The end can be peaceful.
"I see palliative care as the key to bringing caring back into medicine, not measuring our success in the numbers cured but in the numbers we care for, bringing them to peace in their life and in their death," says Merriman.

**A relentless work ethic**

In Kampala, a city with one of Africa’s highest youth populations and a myriad of idealistic expatriate professionals in their 20s, Merriman is one of the few muzungu jajjas, Luganda for “white grandmother.” At age 79, she fits in seamlessly.

Her self-imposed 85-hour workweek comprises many hours on email, in meetings, and international travel. This May and June alone, Merriman criss-crossed eight countries. In Nigeria, she was keynote speaker at a conference. In Ireland, she was a commencement speaker to new graduate doctors. In France, she met with francophone faculty to plan a course. Retirement is not on her horizon, ever.

Merriman’s driven pursuit started at an early age. “I want to go and help the suffering of Africa when I grow up,” she told her mother at age four. By age 13, coming from a devout Catholic family, she knew exactly which Catholic order she wanted to join: the Irish Medical Missionaries of Mary, a small Catholic order that allowed nuns to study medicine and hem their garments above the ankle. They also would allow her to show some of her thick black curls beneath her headdress while moving around comfortably on a bicycle—a dream come true for a teenager contemplating becoming a nun.

Merriman’s mother was deeply spiritual, and her father was a teacher with a degree, a rare combination in the era immediately after World War II. Merriman carried forward these undertones of spirituality and education to ensure palliative care’s sustainability in Africa.
Maintaining the ethos
This has been a good year for palliative care advocates globally. In May, member states of the World Health Assembly adopted a landmark resolution on palliative care, incorporating it into the continuum of care within global health systems. Merriman’s nomination, an award she does not wear on her African-print sleeve, has also given global prominence to pain relief as a high priority. While these developments are celebrated, what keeps Merriman up at night is the legacy of the hospice ethos of care. This is far more difficult to measure than pain control, but it is highly pertinent.

“We have to treat patients as our guest. That means they have choices for their treatments as well as the place where they would like to be looked after before the end of life, usually at home. They’ve lived with their bodies all their lives and know better than us what suits them,” says Merriman.

“When you have a guest in the house, you don’t say, ‘Sit there, drink this.’ You say, ‘Let’s try something else, change the dose.’ We do it in such a way that lets them know they’re in control. An approach of hospitality needs to be extended to the whole of medicine.”

To sustain this ethos, Merriman along with an inner circle of colleagues, are revitalizing the Hospice Africa Foundation. “Now I’m in the last phase of life, and I need to ensure there are things in place to ensure Hospice’s sustainability in the future,” she says.

As she aims to ensure that the mission and ethos of hospice care remains central, Merriman spends a good deal of effort raising funds for the foundation in order to support other organizations in Africa interested in getting hospices off the ground. She is also seeking support for medical education at the IHPCA, which Merriman views as paramount to the expansion of palliative care services on the continent.

“What the nomination means to me is that the work done so far has helped patients in Africa,” she says. “But what I would want the nomination to do is to bring the attention of the world to the suffering of patients in Africa, most of whom have not yet been reached, and to enthuse people to support the work.”

Shelley Enarson is a Kampala-based communications consultant and palliative care advocate who serves on the board of Hospice Africa Uganda. She is an MPH candidate at the George Washington University Milken Institute School of Public Health in Washington, D.C.
Three Bonica Fellows reflect on the professional and personal impact of the John J. Bonica Trainee Fellowships and how the experience has changed their lives.

IASP established the John J. Bonica Trainee Fellowship Program in 1998 to honor the lifetime of leadership of the organization’s founder in promoting pain management research and education. The program provides financial support, training, and mentorship over a two-year period for post-doctoral candidates in the field of pain research. Since its founding, the program has forged important paths for early career investigators and research institutions to broaden participants’ research experience and expand their professional networks.

Sixteen fellows have represented the program since 1998. Among the distinguished recipients, three former fellows and active IASP members were chosen to discuss the impact of the fellowship on their research and professional development. Drs. Laura S. Stone, Anne-Sophie Wattiez, and Mary T. Ersek provided valuable insights that may inspire future candidates and the scientists who served as their mentors. The three former
fellows are now distinguished scientists and practitioners who have advanced research in pain science.

Dr. Stone, the fellowship’s initial recipient, is currently focused on two major research areas: the mechanisms of analgesic drug interactions and the mechanisms underlying chronic low back pain. Using interdisciplinary approaches that incorporate behavioral, biochemical, anatomical, and genetic methods, her ultimate objective is to improve diagnosis and treatment of chronic pain by expanding our understanding of its neurochemistry and neuropathology.

Dr. Wattiez, a 2011 recipient, focuses her research on the G proteins associated with the μ opioid receptors in the RVM in chronic inflammatory injury conditions. She has produced novel research findings that demonstrate the mechanisms by which μ opioid receptor agonists produce antinociception in the rostral ventromedial medulla during sustained inflammatory pain conditions. Dr. Wattiez and her colleagues also undertook an ancillary study to troubleshoot and rigorously validate appropriate reference genes for quantitation of transcript levels in the brainstem and spinal cord.

After receiving her fellowship in 2000, Dr. Ersek demonstrated her leadership through applied research on pain and palliative care and has served as a key investigator for the Center for Health Equity and Promotion. She also received sponsorship from the National Institutes of Health to conduct two randomized controlled trials, including a study on the efficacy of pain self-management for retirement communities.

The former fellows spoke of the impact of the Bonica Fellowship on their professional careers and personal growth. According to Stone, the experience provided “an important lesson that working outside one’s own methodological comfort zone requires the sense that expertise and knowledge is gained and augmented through the collaboration of other scientists.” She emphasized that the program helped her enrich her professional network of colleagues, and from this network she gained a sense of community and belonging that enhanced the quality of her work and personal life.

The experience inspired Stone to contribute her energies to IASP in the post-fellowship years. She has served as a member of the IASP Fellowship, Grants, and Awards Working Group and will become the 2015 chair of the Awards Committee for IASP’s Canada chapter, the Canadian Pain Society. Stone understands the profound impact of the award on early career investigators and says she feels an obligation to contribute to the advancement of the next generation of pain scientists. As she observes, “Fellowships create a rare opportunity to leave your comfort zone and challenge yourself with something new and different. It will be an experience that will strengthen you as a person and as a scientist, regardless of the final outcome of your project.”

Dr. Wattiez says the Bonica Fellowship allowed her to gain new post-doctoral skills that enhanced and added to those she learned within her doctoral program. The training allowed her to increase her knowledge of brainstem mechanism of pain modulation and of chronic inflammatory pain mechanisms, though she had studied neuropathic pain during PhD training.

“In retrospect, I understand how fortunate I am to have had such a broad training during the last two years,” she reflected, “This program helped me become a much more well-rounded scientist.” Wattiez
believes the fellowship will continue to influence her career and research because it has increased her value as a scientist and enabled her to obtain independent funding early in her career. She also notes that her mentor, Dr. Donna Hammond, played an important role in enhancing her experience during the traineeship, imparting essential knowledge, expertise, and mentorship. The two continue to engage in collaborative work.

Dr. Ersek believes the fellowship was pivotal in her professional path: “The program was absolutely critical in jumpstarting my research career,” she says. Before earning the fellowship, Ersek had pursued a tenure-track position at a non-research university after completing her doctoral program. When she returned to post-doctoral training, she found challenges stemming from the eight-year hiatus from a focus on research.

Upon returning to clinical research in 1998, she began working with a mentor, Dr. Judith Turner, on a pilot study. The Bonica Fellowship provided Ersek with an opportunity to create a collaborative mentorship with Turner as well as the financial support that would enable her to devote the necessary time to research. This paved the way for her transition back into the field of research where she has distinguished herself as a scientist, administrator, and educator.

All three former fellows say the Bonica Fellowship opportunity encouraged their sustained participation in IASP. They believe the award can have a positive, long-term impact on the careers of young investigators, as it did for their own careers. Ersek emphatically states, “It is inconceivable to imagine conducting pain research without being a member of IASP and APS.”

From the conversations with the three fellows, what is particularly poignant is the sense that the Bonica Fellowship has provided a touchstone for their careers. Each cites the experience as having profound effects on their professional networks, personal empowerment, and pain research. The John J. Bonica Trainee Fellowship Program fulfills the mission of IASP by creating a wealth of opportunities that serve to enhance the careers of those seeking to advance the study of pain and improve the practice of pain relief worldwide.

Donna Carrillo Lopez is a graduate of the MGH School of Nursing, the UCLA School of International Relations, and the Tufts Medical School master’s program in Pain Research, Education and Policy under the mentorship of Dr. Daniel Carr. Her research interests lie in the focus on emerging tropical diseases and the often neglected symptom of pain.
THE SOCIETAL, POLITICAL, EDUCATIONAL, SCIENTIFIC, AND CLINICAL CONTEXT OF OROFACIAL PAIN

BARRY J. SESSEL

Some of the most common acute and chronic pain conditions are manifested in the face, mouth, and jaws. Many advances over the past four decades have furthered our understanding of the biological and psychological basis of orofacial pain conditions and their diagnosis and management. Despite these advances, the etiology and pathogenesis of many of these conditions, especially those that are chronic, are unclear, and their diagnosis and management still represent significant clinical challenges. Here is an outline of the various features of pain, presented within the context of the societal, political, educational, scientific, and clinical aspects that bear on orofacial pain conditions and describing the challenges that the orofacial pain field faces in dealing with them.

Acute and Chronic Orofacial Pain

A vast array of sensory, motor, and other behavioral functions take place in the orofacial region. The face and mouth have special biological, psychological, and emotional meaning because this region of the body allows us to eat, drink, breathe, and communicate with others through speech and facial expressions. The orofacial region possesses a rich innervation that is associated with a disproportionately large somatosensory representation in the central nervous system (CNS) and has exquisite sensory discrimination and sensitivity. The orofacial region is also a very common site of pain, and like pain in general, orofacial pain may be either acute or chronic.

Acute pain warns us of real or potential damage to tissue and is especially apparent in association with accidental injury, inflammation, or surgical operations. Fortunately, most acute pain conditions can be readily treated and will gradually dissipate as the damaged tissue heals. In contrast, chronic pain is usually considered to provide no such biological advantage and can last months or years after the tissue has apparently healed. The recent research advances documenting the morphological, chemical, and physiological changes in the CNS that occur in chronic
pain conditions support the view that chronic pain can be considered as a neurological disorder somewhat akin to mental diseases such as Parkinson’s disease, epilepsy, and Alzheimer’s disease that also manifest structural and functional CNS alterations. The many types of chronic pain range from those that are idiopathic (such as temporomandibular disorders [TMD] or trigeminal neuralgia) to those with a recognized etiology (postherpetic neuralgia) to those that accompany many chronic diseases or disorders (cancer, arthritis, diabetes, or HIV/AIDS).

Furthermore, about 20% of acute pain conditions can transition into a chronic pain state if not dealt with appropriately; thus, access to timely and appropriate acute pain management is important yet problematic for many people such as those living in areas remote from health-care resources. Chronic pain has reached epidemic proportions in most countries, with a prevalence in the adult population ranging from 12% to 30% or even higher. Chronic pain can indeed be considered a “silent” epidemic because most people, including most policymakers and many health-care professionals, are unaware of its prevalence, of the problems with access to appropriate care, and of the socioeconomic costs of chronic pain.

The results of epidemiological studies of orofacial pain have some limitations, but it has been reported that acute orofacial pain has a prevalence in the range of approximately 13% (but also may vary in different age cohorts), reflecting in large part different types of acute toothache. The prevalence of chronic orofacial pain conditions is in the range of 8% to 15%. Some chronic orofacial pain conditions may be the consequence of an acute pain or injury to orofacial tissues. For example, endodontic therapy has been reported to lead to a sensory dysfunction or persistent pain state in approximately 3% of cases, third molar extraction in some 13% of cases, and local anesthetic trigeminal nerve blocks and dental implants in even higher proportions of cases.

A puzzling feature is why, after a seemingly similar tissue injury, some individuals develop a chronic pain state or sensory dysfunction while most do not. Likewise, what accounts for the individual variation in the pain experience in patients with cancer or diabetes? What accounts for individual differences in patients’ responses to a particular treatment? Genetic and environmental influences and risk factors are particularly important considerations in the answers to these questions.

The Socioeconomic Burden
Pain, and especially chronic pain, causes much suffering and carries an enormous socioeconomic burden. The psychosocial impact of chronic pain on individuals with a chronic pain state is considerable and far-reaching, being manifested in a reduced quality of life, increased rates of depression and suicide, disrupted relationships with family and friends, and reduced employment or work responsibilities. In addition, particularly if the individual’s pain cannot be effectively managed or the condition is not appropriately diagnosed and recognized, it may lead to more depression and despair. These psychosocial aspects, despite their impact on the chronicity of the pain condition and the sufferer’s quality of life, are often overlooked by many clinicians, who focus instead on the possible underlying etiology and how to treat the condition biologically. Such considerations argue for adoption of the biopsychosocial model in the management of chronic pain states.

The economic burden of pain, and chronic pain in particular, is also enormous. It stems from the financial costs to address the psychosocial consequences of chronic pain mentioned above, the costs for medications and nonpharmacological therapeutic approaches, health insurance, and welfare benefits, along with lost tax revenues for the nation and lost income for the patient if he or she can no longer work because of the pain. These economic costs represent financial burdens both on the person with the chronic pain condition and on society as a whole.
For example, Canadian experts estimated several years ago that the personal financial burden for each patient is several thousand dollars per year, and the direct and indirect economic costs annually of chronic pain to the Canadian economy amount to several billions of dollars. Significant personal and financial burdens have also been reported in other countries. In the United States, the total economic costs are estimated at more than $500 billion per year, more than the costs of cancer and diabetes combined. To put this dollar value in another perspective, the annual cost of pain to the U.S. economy is more than the nation had spent each year on the Iraq and Afghan wars, combined!

The socioeconomic costs of pain will become even more of a burden because of changing demographics in most countries. In the coming decades, there will be progressive increases in the proportion of the middle-aged or elderly population, the age cohorts where most chronic pain conditions are particularly prevalent and where health-care costs are already disproportionately high.

Orofacial pain represents a major proportion of this socioeconomic burden because pain in the face, jaws, and mouth is so common. Moreover, chronic orofacial pain states may be associated with several comorbid conditions, including psychological problems. However, in the case of orofacial pain, a precise dollar value is unclear because most of the reported estimates of the financial burden of pain usually overlook the costs of visits to dentists or dental specialists for pain management, and cost surveys in the dental literature typically have focused on just one or two types of orofacial pains, such as toothache or TMD. Nonetheless, the economic burden of orofacial pain is undoubtedly considerable. Given the annual total economic costs of pain in general, the specific costs for diagnosis and treatment of the different orofacial pain conditions, plus the prevalence of these conditions, a conservative estimate would place the costs at more than $100 billion per year in the United States alone.

Factors Influencing Diagnosis and Management

Clinicians face many difficulties and challenges in diagnosing and managing chronic pain conditions, including those manifested in the orofacial region. Indeed, several factors complicate diagnostic and management approaches to orofacial pain states, especially those that are chronic or persistent:

- The differences between individuals in the manifestation, or degree of manifestation, of a chronic pain state and in the response to treatment make it difficult to standardize diagnostic and treatment approaches. The clinician needs a broad knowledge of pain and its management, as well as an appreciation that individual differences and other factors can influence its expression. The public, policymakers, and licensing bodies are becoming increasingly aware of a growing incidence of misuse or abuse of painkillers and of the likelihood that tolerance and even addiction may develop in some individuals.

- Another related reason why chronic orofacial pain conditions are often difficult to diagnose or manage is that for the vast majority of these conditions, the etiology and pathogenesis are still unclear. This problem is compounded by several factors: (1) the relatively low proportion of researchers focusing on these topics compared with the proportions of researchers in the many other health sciences, (2) the limited training and restricted opportunities for training in the basic sciences and clinical sciences related to pain, and (3) the disproportionately low research funds that have been applied to pain research compared with research funding in most other health-science fields.

Ignorance about the cause of a chronic orofacial pain or the processes underlying its progression has nonetheless failed to deter the introduction and advocacy of numerous diagnostic and treatment approaches, most of which lack a solid scientific underpinning and have “muddied” our understanding of chronic orofacial pain and its management. A
A case in point is the introduction of several electronic instrumentation approaches for diagnosing or treating TMD and associated conditions. This innovation has generated much controversy, pitting viewpoints expressing the very limited scientific basis to support their use against viewpoints stemming from the clinical experience of some authors in using them. In any case, the orofacial field has not been advanced by the introduction of such approaches without a compelling evidence-based foundation to support their use.

Another example also comes from therapeutic approaches advocated for TMD, based on the view that occlusal factors are of prime etiological importance in most TMD conditions and thus require treatments founded upon rehabilitation of dental occlusion. Scientific support for such conceptual approaches is limited, and so such occlusal therapies are gradually giving way to more conservative and evidence-buttressed approaches based on the biopsychosocial concept of pain and its management.

Diagnosis and management are also complicated by the complex nature of pain and its multidimensional character encompassing sensorymotor functions that are both pleasurable and vital for sustaining life—tasting, chewing, and swallowing—but also allows us to express our feelings through gestures and to communicate with others by speaking. Thus, because of the complexity and multidimensional nature of pain and the psychosocial factors that may influence it, the pain an orofacial pain patient is experiencing may or may not be communicated accurately and comprehensively to the attending clinician.

A further complication arises from the comorbid conditions associated with many orofacial pain states. TMD and headaches in particular may occur together, and patients with one or both of these conditions may have a high incidence of psychological problems and pain in other body regions, including fibromyalgia, back pain, arthritis pain, and irritable bowel syndrome. The dental clinician focusing only on the orofacial region may miss concomitant pain elsewhere in the body that may be disrupting the psychosocial state of the patient, and unless these comorbid conditions are also managed appropriately, the likelihood of a successful treatment outcome will be reduced.

It is important for the clinician to have up-to-date knowledge of orofacial pain mechanisms and the factors that influence them and to have solid skills in diagnosis and management of orofacial pain. Several recent studies have highlighted the poor understanding and limited knowledge base that most dental clinicians—and indeed most other health care professionals—have about pain. The lack of application of existing and recently obtained insights into pain and its management has led to undertreatment of pain in patients with diseases such as cancer and HIV/AIDS and in patients experiencing neonatal pain or postoperative pain. The picture of undertreatment is colored not only by the limited understanding of pain by most clinicians but also by beliefs about the use, overuse, abuse, or misuse of analgesic medications, especially opioid-related drugs, which are coupled in some countries with limited availability of analgesic or nonpharmacological interventions, limited access to health care resources, legal limitations, and governmental regulations. Misdiagnosis and in some cases overtreatment also are common and result in some pain conditions being inappropriately treated. Striking common examples in dentistry are the misdiagnosis of trigeminal neuralgia or other orofacial neuropathic pain conditions and the use of dental occlusal adjustments and rehabilitation for TMD when the scientific literature clearly has provided little basis
for such an occlusal focus in the diagnosis and management of TMD.

The poor understanding among most clinicians about pain stems in large part from the limited education they receive on this topic during their health professions and continuing education courses. Recent surveys in Canada, the United States, and the United Kingdom are particularly revealing in documenting the limited (and in some programs, completely lacking) formal coverage of pain provided in most health professional education programs in these countries. This applies not only to dentistry but also to medicine, nursing, pharmacy, physiotherapy, and occupational therapy. This situation exists despite the high prevalence of pain and its socioeconomic costs, even though pain patients constitute an integral component of practice in these health professional disciplines. The limited coverage of pain, and in particular orofacial pain, in most dental schools surveyed is also reflected in the limited attention to this topic in the accreditation criteria of dental schools and the competency of their graduates. For example, only two of 47 competency requirements in Canada and two of 39 in the United States are currently related to pain diagnosis and management.

**Recent Advances**

On a positive note, several steps have been taken in recent years to address the various factors influencing the diagnosis and management of orofacial pain conditions and to raise general awareness of the pain “epidemic.” The last four decades has seen the establishment of professional and scientific societies—such as IASP, the American Academy of Orofacial Pain, and the American Academy of Craniofacial Pain—to promote research, education, and management of orofacial and other pain conditions. This effort has gone hand-in-hand with the publication of journals that focus specifically on orofacial pain, such as The Journal of Orofacial Pain, and the establishment of national, regional, and local patient advocacy groups to raise public awareness. Additionally, we have seen regional or local efforts in some academic institutions to enhance pain education in the curricula of dental schools and other health professional schools. Progress is gradually occurring on these educational and advocacy fronts.

Other notable advances include the enhancement of our understanding of pain mechanisms and progress in improving pain diagnosis and management. Having entered the field of pain research myself 45 years ago, I personally can bear witness to the remarkable upsurge in knowledge about pain processes, diagnosis, and management. In the late 1960s, researchers focusing on pain numbered only a few hundred around the world, and there were far fewer in the orofacial pain research field. The remarkable advances in the clarification of pain mechanisms and in improved or new pain diagnostic and management approaches have been catalyzed by several developments:

1. The gate-control theory of pain proposed in
1965 by Melzack and Wall caught the interest of many basic and clinical scientists and led to their involvement in investigating pain processes.

2. The rapid development of the scientific field of neuroscience that started in the 1970s also fostered research into pain processes. For example, the Society for Neuroscience, founded in the United States about 45 years ago, has grown from having roughly 500 participants at its first annual meeting in Washington, D.C., in 1971 to attracting some 35,000 to its recent annual meetings.

3. Analogous developments have taken place in other scientific fields, such as those involving the psychosocial sciences, molecular biology, and genetics.

4. The establishment of societies with a pain focus also fostered an upsurge of interest and knowledge about pain. For example, IASP grew from some 750 attendees at its 1st World Congress on Pain in 1975 to more than 7,500 participants at its 2012 World Congress.

Many notable advances also have sprung from this research focus on pain:

- Recognition of the multidimensional nature of pain and the importance of biopsychosocial factors in pain expression and related behavior.

- Identification of many of the peripheral and central nociceptive processes involved in pain.

- Discovery of several endogenous neurochemicals and intrinsic pathways in the brain and clarification of the role of non-neural as well as neural elements in nociceptive transmission and pain behavior.

- Development of insights into the neuroplasticity of pain-processing mechanisms and pathways that can lead to a chronic pain state.

- Improvements in pharmacological, surgical, and behavioral management of pain. Areas of progress include more-effective and varied drug-delivery systems, a wider range of analgesic and other drugs for pain patients, development of analgesic approaches using spinal cord or brain stimulation and transcutaneous electrical nerve stimulation, and improvements in physical and rehabilitative medicine and in cognitive-behavioral therapy.

Conclusions

Given that pain conditions in the face, mouth, and jaws are among the most common types of pain, orofacial pain represents a significant burden. Several factors influence the understanding, diagnosis, and management of these orofacial pain conditions. Some drawbacks include lack of clarity about the etiology and pathogenesis of many of these conditions, the limited education most clinicians receive about pain and its control, and the comorbidities often associated with chronic pain.

Thus, despite the many advances made in recent decades in understanding pain and approaches to manage it, greater emphasis must be placed on improving the knowledge base of health professionals about pain, on improving patient access to timely and appropriate treatment resources, and on increasing research resources to provide greater insights into pain mechanisms that can be translated into improved diagnostic and therapeutic approaches for orofacial pain conditions.

Barry J. Sessle, MDS, PhD, is a professor on the faculties of Dentistry and Medicine at the University of Toronto and a member of the University of Toronto Centre for the Study of Pain. He is also a fellow of the Royal Society of Canada and has served as president of IASP, the Canadian Pain Society, the Canadian Association for Dental Research, and the International Association for Dental Research. This article is adapted from a fully referenced chapter in the new IASP Press book, Orofacial Pain: Recent Advances in Assessment, Management, and Understanding of Mechanisms.
Amal Helou, a nurse practitioner at the Pain Management Centre at Royal Prince Alfred Hospital in Sydney and a past president of the Australian Pain Society, shares what she has learned in her 33 years in pain management.

**What motivates you in your clinical practice?**

Nurse practitioners are sought after for their ability to engage with patients from all backgrounds and educational levels. One patient described it as “the ability to make clear what is so complex and muddy.” I think she was referring to the use of person-friendly language, rather than clinicians showing off what they know.

Having a “whole person” approach in managing chronic disease ensures patients can collaborate with the entire health-care team. This ability to communicate with practitioners in different disciplines also allows the patient to remain central and engaged. Turf wars become a thing of the past when our focus is the health and well-being of the patient.

Asking our patients what is their primary concern helps us focus on the proper path to take and can save a lot of time as we wander through the many aspects of...
history taking. It is essential to learn what is in the heart of the patient, their fears, and how to motivate them.

In fact, when you listen carefully, patients volunteer how to reach them. And when we can effectively communicate that we understand those concerns, we earn the right to be heard. Sometimes in our isolated specialties we can get caught up in using abbreviations and jargon that does not impress or reach the person.

**What limitations or obstacles have you faced?**
I enjoy working in a multidisciplinary team setting. Hearing other members' perspectives and receiving their support has prevented burnout. Most team members want to find a way to engage patients and be effective. The problem occurs when we are not open to negative critiques and see these as personal affronts, rather than as opportunities to improve and make appropriate changes.

Another clinician's insight into a patient's perspective and his or her ability to reach a particular patient should not be seen as a competition. Unfortunately, I do not think that humility, which I define as having a sane estimation of your gifts and abilities, is prized in the medical field. In some circles, what is prized is an accumulation of up-to-date scientific jargon. Most patients learn best from stories and “simple English” explanations of the scientific evidence behind them. We do not need to cover every new concept; we need to find a balance between too much and too little.

**What have been your best success stories?**
In one of the programs at our center, I teach patients about the role of medications in managing pain. It also covers the limitations and the best experimental evidence we have behind what we prescribe. At the end of that talk, over half of the patients voluntarily make an appointment to see me because they want to understand, reduce their opioid consumption, and make changes. I consider that a success.

I find it is important to listen to all the bits that may not seem relevant at first. Patients come back to me and say, “I told the doctor, but he or she was not interested.” Or even worse, that the doctor did not ask about....

**What would you tell someone who is beginning a career in pain management?**
Read lots and listen carefully. Human-to-human interaction, I call it “human therapy,” is essential in our field. Read escapist novels with happy endings to balance out the sad stories of some of our patients' lives. Get involved in an absorbing hobby. I paint and watch *Star Trek* and English murder mysteries.

Listen to patients, and find out how well they went with the homework they were given when seeing them at follow-up. Offer them a hot or cold drink and have one with them. It helps break down barriers when you have to be firm with them. And smile—it does not reduce the impact of your professional dialogue.

Amal Helou with a patient.
OROFACIAL PAIN
Recent Advances in Assessment, Management, and Understanding of Mechanisms
Barry J. Sessle, editor

When it comes to mechanisms, diagnosis, and management of acute and chronic orofacial pain, no book is more comprehensive than *Orofacial Pain*. With 54 leading pain specialists documenting the latest research advances and treatments, this book is the new standard resource for understanding, assessing, and managing all aspects of orofacial pain.

*Orofacial Pain*'s 24 chapters address the epidemiologic, socioeconomic, and psychological aspects of orofacial pain conditions as well as the mechanisms underlying orofacial pain revealed in recent studies in humans and animals.

Most other books on this topic focus on just one or two aspects of orofacial pain—and nearly all with only dental students or clinicians in mind. *Orofacial Pain* provides the most up-to-date, complete, and integrated coverage of advances in research and new evidence. It is must reading not only for dental clinicians but also for pain scientists and specialists, neurologists, and other clinicians.

Available in print and as an IASP eBook. Visit www.iasp-pain.org to order your copy.

Barry J. Sessle, MDS, PhD, is a professor on the faculties of Dentistry and Medicine at the University of Toronto and a member of the University of Toronto Centre for the Study of Pain. He is also a fellow of the Royal Society of Canada and has served as president of IASP, the Canadian Pain Society, the Canadian Association for Dental Research, and the International Association for Dental Research.

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**Executive Committee**
**Members** President-elect: Judith Turner, PhD (USA); Secretary: Srinivasa Raja, MD (USA)

**Councilors** Mary Cardosa, MBBS (Malaysia); João Batista Garcia, MD, PhD (Brazil); Ian Gilron, MD, MSc, FRCP(C) (Canada); Hellen Kariuki, BDS MSc (Kenya); Jeffrey Mogil, PhD (Canada)

These members will assume their new positions with IASP at the General Assembly during the 15th World Congress on Pain in Buenos Aires in October. At that time, current President Fernando Cervero will become Past President, and current President-elect Rolf-Detlef Treede will become President. More than 1,300 IASP members participated in the election. Bios of the new councilors appear on the IASP website.

**Visit IASP headquarters at 1510 H Street, N.W., Suite 600, Washington, D.C. 20005. We are just steps from the White House.**
With Readers in Mind, PAIN Considers Changes

FRANCIS J. KEEFE, EDITOR-IN-CHIEF

PAIN’s goal always has been to publish the best basic and applied science research in the field of pain. To continue to meet this goal, PAIN needs to explore new and emerging opportunities to serve the field of pain research, our readers, and IASP’s broad membership.

Readers and authors may have noticed several recent steps we have taken to enhance the journal. First, we have made a concerted effort to speed up the time of review. As a result, the average time from submission to first decision has dropped from an average of 38.7 days in 2012 to an average of 20.1 days (as of fall 2013). This is a substantial reduction and will be welcome news to authors seeking a timely review and first decision when they submit to PAIN.

Second, we have developed several new series. A special commentary format titled “Bridging the Gaps” focuses on a target article published in that issue of PAIN and highlights the implications of the methods and findings for basic and applied scientists alike. The rationale for “Bridging the Gaps” commentaries is that they may enable our readers to better understand the links between basic and applied pain research.

Next, a new review format titled “Pain Classics” highlights influential research papers published in PAIN (or elsewhere), places them in a broader context, and appraises how this work created an enduring legacy—something especially important to emerging generations of pain researchers and readers. In future issues, we will launch a series of review and commentary articles that present public policy and health policy issues of importance to basic and applied pain research. Readers interested in submitting articles for any of these series should contact me or one of the section editors.

We also have formed an advisory group of basic and applied scientists, as well as clinicians, to further enhance PAIN’s development through input to the editorial board and IASP leaders. The members had several phone meetings over the past year and met as a group at IASP headquarters in fall 2013. The group identified 10 high-priority initiatives that, along with other suggestions, will form the basis of a strategic plan to guide the journal’s development in the coming years. We already are working closely with our publisher and in most cases have made progress in implementing many of the changes listed here.

- Improve the PAIN website. Make the website more user friendly and include features such as podcasts based on PAIN articles, article summaries, and “Meet the Investigators” features. Expand the number of “Editors’ Choice” articles available as free downloads. Enhance PAIN’s social media presence to enable Twitter, Facebook, and email feeds of highlighted articles.
- Highlight PAIN’s open-access publication option. PAIN offers authors the option to publish in an open-access format, though some readers may be unaware of this. We are working on ways to make this option more apparent to authors.
- Refresh PAIN’s table of contents online more frequently. Enable readers to scan and download articles of interest as soon as possible. We are currently working on potential formats for this feature and exploring biweekly publication.
- Create “Pain Pictured.” Develop a new brief report format consisting of a high-quality infographic that depicts novel findings, mechanisms, or concepts. An accompanying one-page article would describe the figure, and readers would be able to download the figure and article.
- Develop an annual review of PAIN. Consider publishing an annual review, tentatively titled “PAIN: [year]” or “The Year in PAIN: [year],” in both IASP World Congress and non-Congress years. Review types could include state-of-the-science reviews, comprehensive and systematic reviews, and topical reviews written specifically for the annual review issue or reviews generated from IASP-sponsored symposia.
- Recognize more prominently highly cited and highly downloaded papers. Ensure that all authors, reviewers, the editorial board, and IASP members are aware of PAIN’s most highly cited and downloaded papers.
- Publish PAIN in languages other than English. Identify national pain societies that may be interested
in publishing a sponsored alternative language version of PAIN that would include selected, recently published articles. In addition, explore publishing Editor’s Choice articles or article abstracts in other languages.

- Clarify and make more prominent our standards for academic misconduct. Make authors and readers more aware of PAIN’s standards with regard to academic misconduct, and highlight our guidelines and best practices regarding conflict of interest, criteria for authorship, plagiarism, and fraud. Updated guidelines now appear on PAIN’s website.

- Enhance the review process. Improve further the speed and quality of the manuscript review process and provide regular reports on the results. We already have made significant progress in reducing the time for reviews and are working on new ways to rate the quality of reviews.

- Increase the variety of topical reviews, especially on basic science, and improve the quality of figures. Readers should soon see the results of Section Editor Fiona Blyth’s efforts to implement these changes.

(Note: This article originally appeared in the March 2014 issue of PAIN.)

IASP Names Six Researchers, Clinicians to Honorary Membership

The IASP Council has named six outstanding pain researchers and clinicians Honorary Members. All will be recognized before the IASP General Assembly of the 15th World Congress on Pain in October in Buenos Aires.

Honorary membership is the highest recognition the association awards its members. These individuals have made substantial contributions in pain-related fields and have advanced the mission of the association. They join 34 living honorees.

The committee reviewed more than a dozen nominations, basing its selections on the nominee’s contributions in pain education, pain research, and/or pain management; involvement and service to IASP; and exceptional contributions to pain issues at national and international levels.

Following are the 2014 IASP Honorary Members:

Gary J. Bennett is Canada Senior Research Chair, Department of Anesthesia and Faculty of Dentistry at McGill University in Montreal, Canada. Dr. Bennett has devoted his career to improve our understanding of the underlying mechanisms of neuropathic pain, ultimately enhancing care provided to people suffering with these complex syndromes.

Marshall Devor is a laboratory head in the Institute of Life Sciences, Hebrew University of Jerusalem and incumbent to the first endowed chair in pain research in Israel. Dr. Devor’s extensive publications in the field, using a wide variety of experimental approaches, has contributed considerably to our understanding of the neurobiological basis of neuropathic pain.

George Mendelson is Foundation Fellow, Faculty of Forensic Psychiatry, the Royal Australian and New Zealand College of Psychiatrists. Dr. Mendelson’s significant contributions in pain management cover the fields of pain medicine, psychiatry, and the law and compensation for chronic pain.

Robert Andrew Moore is Senior Research Fellow, Nuffield Department of Anaesthetics at the University of Oxford. Dr. Moore has supported and developed the thinking of many clinical and non-clinical “pain leaders” around the world, owing to his prodigious contributions to the knowledge and literature of pain and anesthesia.

Donald D. Price is Professor of Oral and Maxillofacial Surgery, Department of Oral Surgery and Neuroscience, at the University of Florida College of Medicine. Dr. Price has contributed substantially to the treatment of pain by his tireless and passionate advocacy for adequate pain assessment and by developing scales that allow clinicians to measure the pain their patients communicate.

Manoel Jacobsen Teixeira is Professor of Neurosurgery in the Medicine School of the University of São Paulo, Brazil. A pioneer who expanded the study of pain in Brazil and throughout Latin America, Dr. Teixeira created the Residency Program in Chronic Pain in Neurology and Neurosurgery at the university, the first program of its kind in the country. He also founded the original League Against Pain, a model for 20 similar organizations in Brazil that educate students on the practical aspects of the assistance to chronic pain patients.
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By Samir K. Ballas
MD, FACP, FASCP, DABPM, FAAPM

Sickle Cell Pain, Second Edition is a panoramic, in-depth exploration of every scientific, human, and social dimension of this cruel disease. This comprehensive work is the only book devoted to sickle cell pain, as opposed to general aspects of the disease.

Author Samir K. Ballas links sickle cell pain to basic, clinical, and translational research, addressing aspects of sickle pain from molecular biology to the psychosocial aspects of the disease. Supplemented with patient narratives, case studies, and visual art, Sickle Cell Pain’s scientific rigor extends through its discussion of analgesic pharmacology, including abuse-deterrent formulations.

The book also addresses in great detail inequities in access to care, stereotyping and stigmatization of patients, the implications of rapidly evolving models of care, and the consequences of recent legislation and litigation. Sickle Cell Pain offers a definitive look at the disease’s effects.

Sickle Cell Pain, Second Edition, 753 pages, softcover, with 48 color illustrations

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