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The Year of the Member

The ASRA Board of Directors has designated 2014 as “The Year of the Member.” What is our motivation for devoting considerable time and resources to this initiative? Is it a marketing opportunity to attract more members, a public relations exercise to make members feel valued, or just another survey to fill out? Well sort of, but not really. We are indeed undertaking this exercise because we wish to maintain robust membership rolls, but more importantly we wish to know why you are a member of ASRA – what made you join, what makes you stay, and what may make you leave?

Membership in professional organizations has generally diminished over recent years, and ASRA has not been immune to this trend. I cannot tell you with any degree of confidence the extent of ASRA membership decline, but we believe it to be relatively limited. At the end of 2011, ASRA changed its management partner and consequently its mechanism for tracking membership. Compared to 2011, it would appear that membership is dramatically lower. To the contrary, the vast majority of this decline is explainable by improved membership software and clearing the rolls of former members who, for whatever reason, were no longer active within the Society. Our 2013 year-end membership of 3,387 accurately reflects current dues-paying members but nevertheless reflects fewer members than at the pinnacle of our organizational size over a decade ago. ASRA, like other organizations, faces challenges as reasons for professional society membership change over time. Many past members were part of the Society simply to receive Regional Anesthesia and Pain Medicine – yet it is much easier nowadays to obtain select journal articles “for free.” Some former members may have found homes in competing pain medicine societies, while others may come to fewer annual meetings and therefore find reduced member registration fees less appealing. Generationally, our younger colleagues are less prone to join groups. In some ways, ASRA is simply a microcosm of larger trends, but for the Board of Directors to simply accept these changes without digging deeper would be a disservice to the Society, especially those nearly 4000 of you who have remained loyal to ASRA and its mission “to advance the science and practice of regional anesthesia and pain medicine.”

The Year of the Member initiative aims to find out more about our membership base and their perception of the Society – how are we fulfilling our mission, how are we providing educational and professional value, and how well (or not so well) are we managing our day-to-day interactions with you? Our strategy for actualizing this initiative involves a focused summit of the Society’s executive committee, professional input from our management partner’s expertise in society membership, and consultation from marketing and website experts. As a current member, your role in this process began in February with a survey intended to bring to fore your unabashedly “touchy-feely” emotions about ASRA - how it feels to be a member and what commits you to this organization? Some attendees at the Regional Anesthesiology and Acute Pain Medicine Annual Meeting in Chicago will be invited to participate in focus groups to express their opinions about the Society. Subsequent short surveys will seek specific information about how you interact with the Society and how we can make those interactions better. We will call former members to seek their input regarding why they have chosen not to renew their membership. If and when you are approached to participate in a survey, focus group, or phone call, we would be enormously appreciative if you would share a few moments of your time and honest opinions.

“The Year of the Member initiative aims to find out more about our membership base and their perception of the Society”

Despite the Board of Directors’ efforts to make the workings of ASRA more transparent and open to member input, we clearly have opportunities ahead to improve our communications with you. To this end, Membership Committee Chair Dr. Gene Viscusi has written for ASRA News a brief article that further enunciates the Society’s goals and plans during the Year of the Member. In addition, Dr. Kumar Buvanendran highlights some of ASRA’s recent efforts in the field of regulatory advocacy – an area in which the Society is extremely active on behalf of its members, yet does so mostly in the background and without fanfare.

In closing, I wish to revisit the value of an ASRA membership. Value is at the heart of the Year of the Member initiative - what is it about ASRA that you value, and how can the Society increase its value to you? Please do not confuse value with money. At $225 per year for an active membership, only one major anesthesiology or pain
In this issue, our President, Dr. Joseph Neal, outlines ASRA’s “Year of the Member” initiative and presents the value that the Society brings to our esteemed members. Clearly ASRA is primarily a society for education and advancement of the science and practice of regional anesthesia and pain medicine. Our members may want more! I was charged with the task of examining our current membership status and recent trends in member numbers. Our annual meeting attendance has been robust and accompanied with generally high satisfaction. Still, the needs of our members have changed over time, and we may need to be more than an educational society. If ASRA is to remain at the forefront of regional anesthesia and pain medicine, our members may want more! I was charged with the task of examining our current membership status and recent trends in member numbers. Our annual meeting attendance has been robust and accompanied with generally high satisfaction. Still, the needs of our members have changed over time, and we may need to be more than an educational society. If ASRA is to remain at the forefront of regional anesthesia and pain medicine, it is critical that we understand and meet our members’ needs. After speaking with a number of you and discussion with my fellow Board members, I felt we needed a dedicated “Year of the Member” to assess where the Society is as we approach our 40th anniversary and where we need to be to best serve the changing needs of our membership.

How will we accomplish this? We are going to ask! Every member received a detailed survey to help us define our “brand essence.” Focus group sessions were held at the Spring Annual Meeting. Please take part in any opportunity to give your opinion. Your input will help guide us through this period of discernment to improve or change the offerings of the Society. We are currently revamping the website and reevaluating our educational products. We will likely move to a more convenient July–June membership cycle rather than the calendar year. We will offer multi-year discounted memberships and possible group and institutional discounts. Our most valuable assets are our young residents and fellows, many of whom join in training but may not continue in the Society after graduation. We need to better understand their needs and engage them with targeted benefits both in training and as they enter practice. We want to hear from our members in training!

So, the Society asks, what are we missing? Tell us how we can better serve your needs educationally, clinically, and administratively. Where has ASRA fallen short of your expectations? ASRA should not endeavor to copy or duplicate what other groups provide; rather we need to develop our unique brand essence based on your input to become YOUR Society. ASRA is not an institution; we are all colleagues with common needs and goals. The “Year of the Member” will help us better define these common needs and goals.

What can you do for the Society? Be an active communicator. Bring your ideas and concerns to me, the Board of Directors, or the membership committee. Then take part in the Society. Come to a meeting. Join a committee. Become part of the on-line community, and help guide our presence. Join a special interest group. Tell your non-member colleagues about the Society, and encourage them to join. Bring one colleague to a meeting. Do you think you can bring one new member to the Society this year?

We are a community of practitioners with common goals in regional anesthesia and pain medicine. Going forward, remember that YOU are part of this community and are the reason for this community to exist. YOU are the Society! ASRA will evolve but only with your input and support. Together, we can accomplish much for regional anesthesia, acute and chronic pain medicine, and for our patients. Together we will keep the Society relevant and connected to your needs.
ASRA and Advocacy: Is this Truly Happening?

A question frequently asked by our ASRA members is: why is ASRA not involved in advocacy issues? I am happy to report that ASRA has been working hard on behalf of its members in advocacy, and the Executive Committee is pleased to provide some highlights on this matter in this issue of ASRA News. We intend to continue providing periodic updates as well.

ASRA’s mission statement is: “advancing the science and practice of regional anesthesia and pain medicine.” Advocacy is a political process by an individual or group which aims to influence public policy and resource allocation decisions within political, economic and social systems, and institutions. Advocacy is not specifically included in ASRA’s mission, and this is the primary reason why we have not been publicizing the critical role ASRA undertakes on issues affecting our membership. ASRA is a 501©(3) organization and, as such, may engage only in regulatory advocacy but not in legislative or political advocacy (per our legal counsel). Political advocacy is defined as the promotion of, or opposition to, any candidate for public office. If political advocacy was to be done by ASRA, our 501©(3) status could be in jeopardy. On the other hand, legislative advocacy involves going to lawmakers with the purpose of influencing legislation and, although ASRA could part take in this, this process would require filing with the IRS with a commitment to spend and report to the IRS 5-20% of our annual operating income for the purpose of influencing lawmakers. This would mostly require hiring lobbyists and is not a direction that the ASRA Board will undertake currently.

Thus, ASRA can only engage in regulatory advocacy, and ASRA has been very involved with this for many years. I will highlight some of the issues in which we have been engaged.

1. The Medical Directors of Medicare nationally approached the leadership of pain societies, ASRA included, to form a Multi-society Pain Working (MPW) group. Currently, this includes 15 national pain societies, and ASRA is one of them. The task of the MPW is to review the literature on various interventional pain procedures and provide recommendations to the Medicare Medical Directors. ASRA, like other societies in the MPW, has only one vote. The procedures that were reviewed and approved by the MPW include lumbar epidural steroid injections, facet joint injections, and various other interventional procedures. A summary of these approved MPW recommendations will be presented at the fall meeting this year in San Francisco. In addition, ASRA with ASA and the North American Neuromodulation Society (NANS) led the formulation for the spinal cord stimulator local coverage determination (LCD) that was then voted on by MPW and is now with the Medical Directors for further review.

2. There was a recent ruling from Center for Medicare and Medicaid Services (CMS) to reduce Medicare fees for epidural steroid injections. ASRA and 6 other pain societies joined ASA in writing a very strong letter to CMS opposing this decision.

3. There were reports of complications from cervical transforaminal injections. The FDA approached ASA and ASRA to provide guidelines for appropriate technology and recommendations on the type of steroid to be used for these interventional procedures. This working group is in the last stages of finalizing its recommendations to the FDA, and these will be published in the very near future.

4. ASRA provided a detailed response to the recommendations included in the report by Physicians for Responsible Opioid Prescribing (PROP), which was reviewed by the FDA.

5. ASRA partners with other pain societies for the national spine summit meetings and regulatory matters that influence pain practice.

6. In the realm of acute pain medicine, last spring ASRA successfully partnered with ASA to challenge and stop a proposal from Noridian (the Medicare carrier in the northwestern United States) to only pay for postoperative analgesic blocks if they are instituted after the patient is discharged from the recovery room and has failed traditional parenteral drug therapy.

7. Currently, ASRA and ASA are investigating options to respond to and/or comply with a recent Virginia insurance company’s future mandate to reimburse the ultrasound guidance portion of analgesic blocks only if the provider’s group is accredited by the American Institute of Ultrasound Medicine or the American College of Radiology.

These are just a few of the issues in which we have been involved, and they demonstrate the role that ASRA plays in regulatory advocacy. ASRA will continue to partake in future issues affecting our membership provided that they are within the scope of our bylaws. If you as a member are interested in being part of this process, please contact the Executive Director, Angie Stengel, at the ASRA office or by e-mail: astengel@kenes.com.
The use of opioids for chronic pain has exploded over the past two decades. This has been due to the paradigm that chronic nonmalignant pain can be well-managed with opioid therapy based on the presumption that the risk of addiction is relatively low. Experience has shown otherwise. However, most pain medicine specialists believe that opioids can be used in a balanced approach to treat chronic intractable pain. After exhausting non-opioid methods, opioids may present a reasonable approach in the treatment of chronic intractable pain. The one-dimensional approach of using opioids as monotherapy, with the thought that most chronic pain responds well to such therapy, is problematic. Both physicians and patients can experience problems with respect to high dose opioid therapy.

OVERVIEW OF PRESCRIPTION OPIOID OVERUSE AND ABUSE
The global epidemic of chronic pain and disability led to the explosion of prescription opioid use and abuse. The sales of opioid analgesics quadrupled between 1999 and 2010. Hydrocodone sales increased by 280% from 1997 to 2007, while methadone use increased 1,293%, and oxycodone usage increased by 866%. The estimated number of prescriptions filled for opioids exceeded 256 million in the United States in 2009. Hydrocodone with acetaminophen was the number one prescription in the United States from 2006 through 2011. In addition, a United Nations report illustrated that the United States population, constituting 4.6% of the world’s population, consumed 83% of the world’s oxycodone and 99% of hydrocodone in 2007. The number of prescriptions dispensed in the United States by various specialties differs with respect to immediate release versus long-acting opioids. What is consistent, however, is that primary care physicians are responsible for over 40% of the dispensing of both immediate release and long acting opioid pain medications (Figure 1). The Drug Enforcement Administration and local state agencies have prosecuted many physicians across the country for inappropriate controlled substance prescribing and sometimes even drug trafficking. On the other end of the spectrum, physicians have been prosecuted in one form or another for the under-treatment of pain.

EXAMPLES FROM THE LEGAL SYSTEM (PUBLIC RECORD)
Prosecution for Overprescribing And Over-Treatment of Pain. Probably the most well-known prosecution of a physician for overprescribing was the case of William Hurwitz. In 2004, Dr. Hurwitz was convicted of over 50 counts of distribution of narcotics and sentenced to concurrently serve four 25-year and forty-six 15-year sentences and fined $2 million. On August 22, 2006, his conviction was overturned by the U.S. Court of Appeals for the Fourth Circuit due to errors by the trial judge that essentially prevented the jury from considering Hurwitz’s defense — that he

“It is not surprising that pain physicians may feel damned if I do, damned if I don’t”
was prescribing the medication in good faith as part of the regular practice of medicine. At the retrial in July 2007, the sentence was reduced to four years and nine months. The judge noted: “An increasing body of respectable medical literature and expertise supports those types of high-dosage, opioid medications.” The judge added that Hurwitz had undermined his own cause by ignoring that some patients were clearly drug dealers, and Hurwitz admitted before sentencing that he had deceived himself about some patients who, in retrospect, were clearly criminals.

Under-Treatment of Pain (Bergman v. Chin). Mr. Bergman was an 85 year-old male with severe chronic obstructive pulmonary disease, spinal compression fractures, recent weight loss and severe spinal pain. Eventually he presented to the emergency room secondary to over-sedation while utilizing morphine. He was diagnosed with lung carcinoma but refused all treatment, except home palliative care. However, while in the hospital, his pain scores were noted to be very high; and the attending physician, Dr. Chin, did not feel the pain scores were accurate. The family pleaded with Dr. Chin to increase the pain medications. He eventually prescribed transdermal fentanyl and meperidine prior home discharge. The home hospice nurses called Dr. Chin for more pain medications, but he refused and referred them to the hospice physicians. Eventually, the hospice nurse obtained a morphine prescription from a prior treating physician for further pain control. Mr. Bergman died the next day. The family filed a complaint to the medical board and a malpractice suit against Dr. Chin. The suit was dismissed prior to trial. The family eventually brought civil suit under the Elder Abuse Law in California. The jury concluded that failure to manage pain was elder abuse, and the family was awarded $1.5 million, which was eventually reduced to $250,000 by the judge.

Overprescribing of Opioids (Vasa v. Compass Medical). A 77 year-old female, Jane Berghold with congestive heart failure, diabetes mellitus, and hypertension, was prescribed opioids for chronic pain. She crashed her vehicle into a Brockton Hospital office building killing an employee, Michael Vasa. During deposition, Ms. Berghold alleged that she felt light-headed and dizzy. Mr. Vasa’s widow settled with Berghold, but then sued Compass Medical and the treating pain physicians for wrongful death. The amended complaint alleged that the defendants knew or should have known that the medications they prescribed, alone or in conjunction with Berghold’s age and existing illnesses, were likely to impair her physical and mental abilities to operate a motor vehicle safely. Additionally, the amended complaint alleged that the defendants committed a breach of their duty to Berghold and the public by failing to advise Berghold not to drive. The complaint also contained claims for wrongful death and punitive damages. The court convened to allow civil suit, but the defense petitioned for a medical malpractice tribunal. The Supreme Court of Massachusetts concluded that defendants are subject to the malpractice tribunal requirement of G. L. c. 231, § 60B.

TOOLS FOR APPROPRIATE DECISION MAKING
It is not surprising that pain physicians may feel damned if I do, damned if I don’t. There are solutions to this dilemma. Firstly, it is imperative to understand that chronic pain is a complex medical condition which involves both physical and psychological components. A balanced approach to chronic intractable pain is

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**Figure 1:** Total number of prescriptions in the U.S. by various specialties for immediate release and long acting opioids, year 2009; PM&R=Physical Medicine and Rehabilitation; NP=Nurse Practitioner; PA=Physician Assistant. Reproduced with permission from Pain Physician 2012; 15:S67-S116.
often necessary, particularly with patients who demonstrate multiple comorbidities. Assessment of the patient is first and most important step. Investing a significant amount of time up front in the initial assessment can save the patient and physician hours of heartbreak and potential complications later in treatment. The pain generator needs to be identified and appropriate multimodal management strategies offered. Medical comorbidities needs to be assessed. In addition, Understanding the metabolism of opioids is crucial to avoiding potential complications with respect to drug-drug interactions.

The presence of a psychiatric comorbidity often places patients at a higher risk for substance use disorders. To be specific, anxiety disorders, bipolar disorder, post-traumatic stress disorder, and attention deficit hyperactivity disorder have a greater than 50% risk of coexisting substance use disorder. Concurrent or past history of alcohol or substance abuse is a significant risk factor. A family history of substance use disorder is highly predictive of substance misuse; for example, the biological offspring of alcoholic parents have an 8 times greater likelihood for developing alcoholism. A history of sexual abuse also has a correlation to opioid misuse and abuse.

Validated risk tools have been developed which allow physicians to screen for relative risk of opioid misuse. Specifically, the opioid risk tool (ORT), Screener and Opioid Assessment for Patients with Pain (SOAPP-R), and the Diagnosis, Intractability, Risk, And Efficacy Score (DIRE) provide the physician with a relatively fast and efficient way to screen patients for risk of opioid misuse. Both the ORT and SOAPP-R are completed by the patient, and the DIRE is completed by the physician.

The testing of bodily fluids (urine, saliva, blood, and hair) has been widely accepted to improve adherence monitoring. Sampling can be easily done in the office (point of service testing) either by simple dipstick or analyzer, with confirmation performed usually by an outside laboratory utilizing gas or liquid chromatography.

Many states have a prescription drug monitoring program (PDMP) which allows physicians to access a patient’s controlled drug prescription history. Taken together, all of the above provide a complete picture of the patient and allow the physician to assign risk and develop an appropriate pain treatment plan. Once that risk

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Our van carved its path along the serpentine mountain road in rural Honduras. The hazardous journey reminded me of the fragility of life and how simple changes, such as implementing a surgical checklist, could improve surgical safety in Honduras. I was there on a medical mission thanks to the support of Lifebox (http://www.lifebox.org), the World Health Organization (WHO), the American Society of Anesthesiologists (ASA), and the Department of Anesthesiology at the University of Florida. Two other residents, two faculty, and I were there to help local doctors and support personnel implement the WHO surgical safety checklist (Figure 1) and pulse oximetry into their daily practice routine.

Surgical checklists showed early promise in reducing wrong-site surgery and complications in the United States, leading WHO to direct its attention to global adoption of checklists. Dr. Atul Gawande led the research group that implemented a surgical safety checklist in 8 hospitals around the world and collected data on mortality and inpatient complication rates. This research study demonstrated a dramatic reduction in death rate from 1.5% to 0.8% and a reduction in inpatient complications from 11% to 7%. A secondary outcome of the study established the benefits of pulse oximetry in the surgical setting, which the ASA had incorporated as standard monitoring decades earlier.

Lifebox was inspired by the WHO Safe Surgery Saves Lives Project. The physicians who comprise Lifebox have a vision to provide durable pulse oximeters for every hospital in the United States.

public hospital operating room (OR) in the world and to provide basic education on pulse oximetry use to improve surgical safety. The anesthesiology department at the University of Florida challenged itself to adopt a country in great need and fill the identified pulse oximeter gap. We chose Honduras where, at the time, there were many public hospital operating rooms without a pulse oximeter. We introduced the WHO Surgical Safety Checklist to the 24 public hospitals in Honduras, and we explained how the implementation of the checklist has been shown to decrease errors, increase awareness of safety concerns, increase compliance with perioperative antibiotic administration, and foster a culture of safety in operating rooms. Through a series of follow-up visits, we continue to educate local providers in the use of the surgical safety checklist and pulse oximetry as well as verifying implementation of these two interventions.

One of our most memorable visits was to a public hospital of adobe and sheet metal construction situated in the mountains. We were greeted warmly by the chief of surgery, hospital administrator, anesthesia personnel, and nurses. They were eager to talk about the utility of pulse oximetry and the surgical safety checklist. I sought volunteers from the audience who played the roles of patient, surgeon, anesthesia provider, and scrub nurse in a live demonstration of the checklist. We then talked about barriers to implementing the checklist because identifying barriers is crucial to mitigating them. We learned they often did not have antibiotics available for surgical prophylaxis and discussed ways in which they could change their system to enable the pharmacy to deliver the antibiotics (when available) to the OR prior to incision. Another barrier they described was an established hierarchy. Since the anesthesia providers had a mere high school education, they frequently felt intimidated by the surgeons who insisted on being “always right.” We joked about this together and determined such personality traits occasionally transcend cultures. In addition, we discussed barriers to communication among operating room personnel and ways to work through their perceived barriers.

The Hondurans described their working environment, and I asked what barriers they perceived to fostering a culture of safety. Initially, it was noted that their surgeons must become invested in the surgical safety checklist. We provided primary literature and explained how preoperative checklists improve adherence to safety steps and decrease perioperative mortality and morbidity. Next, the participants stated that, as a team, they need to recognize that everyone is vulnerable to making errors. By acknowledging this, each caregiver may become more vigilant to prevent future errors. Currently, in their culture, physicians are expected to be above making mistakes and are told to just work harder so errors will not occur. The group agreed this model promotes physician autonomy but ultimately is not effective in preventing errors.

My team left the hospital grateful for our conversations with the local health care workers and encouraged about the cultural shift that is now moving them toward a culture of surgical safety. We then continued our long journey on the rock and pothole-rich road to the next hospital. I thought about my discussions with the Hondurans and recognized what a huge impact implementation of the surgical safety checklist and pulse oximetry has made in their ability to provide safer surgery.

To learn more about Lifebox, please visit http://www.lifebox.org and see http://asahq.org/gho for more information about ASA’s Global Humanitarian Outreach program.

“Since the anesthesia providers had a mere high school education, they frequently felt intimidated by the surgeons who insisted on being ‘always right.’”

References:
I make checklists for everything. Whenever I go on a trip, I use the same packing checklist to make sure I don’t forget anything - umbrella, jacket, socks, snacks, passport, and a few other things. Using a checklist not only ensures that I bring everything I’m going to need on the trip; I’m convinced that it makes my packing ritual faster because I don’t have to keep going back and forth to my suitcase whenever I suddenly remember something I left out.

Even our dog has her own packing checklist for trips to her sitter’s house. Now that my wife and I have 2 kids (one 2 year old and one 6 month old), the traveling checklist has gotten more complex and even more essential.

As an anesthesiologist, I believe that checklists are part of our culture whether we state them explicitly or not. When I first started my training as a new anesthesiology resident, I learned a mnemonic “MOM SAID” (although there are variations) to check and set up my anesthesia workstation before every case. Each letter stood for an important element of my preparation checklist: Machine Oxygen Monitors Suction Airway IV Drugs. I would then follow this mnemonic with reminders for myself; for example “MOM SAID, ‘don’t forget your stethoscope’” or “MOM SAID, ‘don’t forget to print a baseline EKG strip.’” Over the years, I have found modified forms of this same checklist to be useful just before and after induction, and I continue to use this method today.

Unfortunately, in the complex environment of surgery and perioperative medicine, there aren’t easy mnemonics for everything, and medical errors happen. The use of a formal checklist for surgical and invasive procedures that promotes interactive discussion among all team members and includes important steps related to the entire surgical episode has been promoted by the World Health Organization (WHO) as part of its global Safe Surgery Saves Lives campaign (http://www.who.int/patientsafety/safesurgery/en/). In this issue of ASRA News, our Resident Section Committee article by Dr. Jennifer Bunch presents her experience implementing the WHO Surgical Safety Checklist abroad.

In regional anesthesiology and pain medicine, one of the most dreaded complications besides nerve injury and local anesthetic systemic toxicity (LAST) is the wrong-site block. The risk factors related to this medical error have been well-studied and include patient, physician, procedural, environmental, and system factors. Despite the best intentions, wrong-site blocks have not gone away. ASRA has been hard at work developing a standardized pre-procedure checklist for regional anesthesiology that will soon be published in Regional Anesthesia and Pain Medicine. ASRA’s recommended checklist will include the following elements: patient identification with assessment of pertinent medical history, separate verifications of the surgical procedure and block plan, confirmation that appropriate equipment and medications for the block procedure and resuscitation are immediately available, and a pre-procedural time-out. Dr. Mulroy was charged with heading this task force and has been kind enough to summarize ASRA’s checklist project in this issue of ASRA News.

With the publication of this checklist, ASRA is once again taking a stand in support of patient safety. The process of verifying the correct patient, correct site, and correct implants or devices for patients undergoing any invasive procedure, including peripheral nerve blockade, must be consistently and reliably applied for every patient. Since there is no easy mnemonic to help providers remember every step, and the order in which they must occur, I suggest using a standardized cognitive aid for block procedures (Figure 1) that should be posted in a consistent location visible to all providers involved in the procedure and in every location in which these procedures will occur. During the time-out process, it is essential that all team members involved in the patient’s procedure stop what they are doing and actively participate.

![Figure 1](Continued on page 20)
Cervicogenic headache (CGH) describes a syndrome of hemicranial cephalgia believed to originate from cervical spine structures. CGH has been the subject of noted controversy with the causal relationship between cervical structures and headache pain described as “unproven and often dubious” by some. The prevalence of CGH is highlighted at 0.5%-4% of the general population, while an estimated 15-20% of headache patients may suffer from CGH. Clinicians are faced with difficulty regarding the diagnosis of this entity because of the multitude of structures that may contribute to the etiology of CGH. Presently, there is no definitive test or radiographic finding that is pathognomonic of CGH.

HISTORY
Sjaastad et al first described “cervicogenic headache” in the literature in 1983 to highlight headache sufferers whose origin of pain originated in the cervical region. Previously, mention of headache originating from the cervical spine occurred in 1853; however, the earliest description currently accessible is from 1913. The paper’s author noted that cervical pain from musculature could lead to headaches.

The Swiss neurologist, Barschi linked cervical spine trauma with headache pain by noting “cervical migraines” due to alterations of the cervical zygopophyseal joints. Research by Josey in 1949 reported on a series of 6 cases of unilateral headache due to cervicostructural causes. Despite historical descriptions of this condition, the International Headache Society (IHS) did not recognize CGH in its 1988 classification system. Sjaastad founded the Cervicogenic Headache International Study Group (CHIG) in 1987 in an effort to promote clinical and research interest in this condition. In 1994, the International Association for the Study of Pain (IASP) presented diagnostic criteria, formally recognizing cervicogenic headache.

CLINICAL DESCRIPTION
Patients with CGH present with a radiating, typically unilateral headache located in the sub-occipital/occipital region traveling to the temporal and peri-orbital regions. Patients may also describe pain in the fronto-parietal region, and in the upper extremity, along with associated nausea/vomiting and photophobia. The headache is “side-locked,” meaning that it does not alternate between the sides. Associated spinal range of motion is typically decreased and precipitates the headache. The provocative aspect of headache precipitation allows clinicians to distinguish CGH from other types of headaches.

The IHS and the CHIG have described their individual schema for headache classification. The IHS classification places a caveat on possible causes of CGH, noting that “Tumors, fractures, infections and rheumatoid arthritis of the upper cervical spine have not been validated formally as causes of headache, but are nevertheless accepted as valid causes when demonstrated to be so in individual cases.” Furthermore, the IHS criteria do not include cervical spondylosis as a potential cause of CGH. This distinction is in direct contrast with the previously-mentioned historical descriptions. The IHS criteria also do not include myofascial trigger points in the definition of CGH, instead categorizing these patients as suffering from tension-type headache irrespective of the source of the pain. Additionally, this classification system defines CGH as an acute phenomenon rather than a chronic recurrent syndrome.

The CHIG classification system presents more comprehensive criteria for diagnosis (Table 1). This system highlights CGH as unilateral without side shift. It is less specific on etiologic factors that may cause the headache along with no mention of time duration in comparison to the IHS classification. The two systems provide complementary information to clinicians treating patients with CGH.

MEDICAL MANAGEMENT
The Food and Drug Administration (FDA) currently does not have specifically medications approved for the treatment of CGH. Multimodal therapy has been reported, including antidepressants, antiepileptic medications, non-steroidal anti-inflammatory agents (NSAIDS), migraine-abortive agents, muscle relaxants, and GABAergic agents with varying degrees of efficacy.

INTERVENTIONAL TREATMENTS
Naja et al have described the benefit of occipital nerve (ON) block for cervicogenic headache. In this study, the occipital nerve
blocks were performed as a “field block” with identification of injection site by palpation over the area supplied by the greater ON rather than with more precise technology such as ultrasound or nerve stimulation. Anthony noted improvement in patients injected with methylprednisolone deposited in the region of the greater ON and lesser ON in treating CGH; 94% of patients with CGH achieved relief of headache symptoms for a mean of 23.5 days.

Bovim presented data on the efficacy of cervical nerve blocks and cervical facet injections. Greater ON block was noted to be effective. The C2 nerve block was noted to be most efficacious in decreasing CGH followed by injection of the C2/3 facet level. The authors felt that cervical nerve injections distal to C3 would probably offer no clinical benefit. Another study highlighted the beneficial role of the deep cervical plexus block (C2-C4) for CGH with pain relief for 3 months.

Radiofrequency (RF) has been utilized for CGH with varying degrees of success. Stovner et al noted that RF for CGH has a maximum benefit of 3 months of relief and concluded that this therapy should not be recommended. In contrast, another report suggests RF as a viable treatment option. Pulsed RF has been described in the treatment of CGH. A case series presented two patients who underwent PRF of the C2 dorsal root ganglion for treatment of CGH with 100% relief for 6 months. This benefit may not be consistent; 50% of patients in one study had relief for at least 2 months while 44% of patients had relief at one year after lateral atlantoaxial joint RF.

Cervical epidural steroid injection (ESI) has also been evaluated for patients with CGH. A European study showed benefit from ESI in terms of pain relief in the short term (12 hours) and medium term (4 week) with less benefit over the long term. Weaknesses of this study include: 1) patients enrolled did not receive magnetic resonance imaging of the cervical spine prior to ESI to corroborate any areas of pathology, and 2) ESI was performed without the use of fluoroscopic guidance to ascertain accurate epidural spread of medication. ESI was performed at the two upper cervical levels; assuming that the pathological level for CGH was at the C2-3 level, it is unclear without fluoroscopic guidance whether the spread of the corticosteroid extended to the level of interest.

Botox (Allergan Pharmaceuticals) is a purified extract of onabotulinum Toxin A that has been utilized for cosmetic and analgesic purposes. It has recently received FDA approval for use in patients with migraine headaches. Case reports have shown benefit of Botox injections used off-label in the occipital, cranial and cervical regions in patients with CGH and migraine-like symptoms. A review of the literature reveals benefit in individual case reports only with no benefit seen in randomized controlled trials evaluating Botox in CGH.

CONSERVATIVE MANAGEMENT
Physiotherapy has been utilized in patients with CGH to enhance recovery and decrease the likelihood of return of symptoms. Range of motion with cervical traction, myofascial release, muscle strengthening, and posture/body mechanics adjustments are therapies typically utilized.

Table 1: Diagnostic criteria for cervicogenic headache from the Cervicogenic Headache International Study Group (CHIG).

<table>
<thead>
<tr>
<th>Major Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Symptoms and signs of neck involvement</td>
</tr>
<tr>
<td>a. Precipitation of comparable symptoms by</td>
</tr>
<tr>
<td>i. Neck movement and/or sustained, awkward head positioning, and/or</td>
</tr>
<tr>
<td>ii. External pressure over the upper cervical or occipital region</td>
</tr>
<tr>
<td>1. Restriction of range of motion in the neck</td>
</tr>
<tr>
<td>2. Ipsilateral neck, shoulder, or arm pain</td>
</tr>
<tr>
<td>2. Confirmatory evidence by diagnostic anesthetic block</td>
</tr>
<tr>
<td>3. Unilaterality of the head pain, without side shift</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Head Pain Characteristics</th>
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</thead>
<tbody>
<tr>
<td>1. Moderate-severe, nonthrobbing pain, usually starting in the neck</td>
</tr>
<tr>
<td>2. Episodes of varying duration or fluctuating, continuous pain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Characteristics of Some Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Marginal or no benefit from indomethacin</td>
</tr>
<tr>
<td>2. Marginal or no benefit from ergotamine and sumatriptan</td>
</tr>
<tr>
<td>3. Female gender</td>
</tr>
<tr>
<td>4. History of head or neck trauma</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Features of Lesser Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Various attack-related phenomena, only occasionally present, and/or moderately expressed when present:</td>
</tr>
<tr>
<td>a. Nausea</td>
</tr>
<tr>
<td>b. Phonophobia and photophobia</td>
</tr>
<tr>
<td>c. Dizziness</td>
</tr>
<tr>
<td>d. Ipsilateral blurred vision</td>
</tr>
<tr>
<td>e. Difficulties swallowing</td>
</tr>
<tr>
<td>f. Ipsilateral edema, mostly in the pericocular area</td>
</tr>
</tbody>
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CONCLUSION
Cervicogenic headaches have been described historically in various medical disciplines. It is a controversial entity whose existence has both supporters and naysayers. The difficulty in evaluating CGH lies in a dearth of objective findings on physical exam or radiographic testing despite patients’ presenting with...
Intrathecal (IT) drug infusion systems are widely used in the treatment of refractory chronic pain conditions, malignant pain, and spasticity.\(^1,2\) In fact, the use of such systems has increased dramatically over the past several years.\(^3\) Appropriate patient selection is paramount to successful treatment outcomes; however patient selection and treatment paradigms vary widely between practitioners. This variability leads to difficulties when “inheriting” a patient with an IT delivery device from another practice.

When evaluating a “pump patient” in this situation, start by assessing the patient’s underlying pain condition, co-morbidities, psychological disposition, and social factors in order to tailor care in an appropriate manner (Figure 1).\(^4\) Make sure IT therapy is being utilized for an indicated condition such as neuropathic pain, failed back surgery syndrome, complex regional pain syndrome, and other disorders that are caused by injury to the central nervous system.\(^4\) In addition, one should also analyze the anatomic location of the catheter tip in the intrathecal canal, as well as the medications utilized, as both of these factors may affect the efficacy of analgesia.\(^5\)

It is also important to review the patient’s co-morbid conditions as these can have serious impact on adverse effects of the therapy. Conditions such as obstructive sleep apnea (OSA) and chronic lung disease can put a patient at higher risk of respiratory depression. Age factors into dosing recommendations as well. Younger patients usually escalate dosage and develop tolerance more rapidly than older patients.\(^6,7\) Patients with implanted IT devices should continue to be monitored and treated for psychological co-morbidities. It is also important to evaluate the social factors of the patient; the patient must be able to attend clinic appointments and not be impeded by geographical limitations or other issues. Deer and colleagues assert that no co-morbid conditions are absolute contraindications for IT pump therapy as long as patients are properly monitored and dosed cautiously.\(^8\) Therefore, it is essential when assuming care of an existing pump patient that these concomitant conditions be reviewed to ensure that current treatment is appropriate.

Further, one should assess any new patient for adverse effects and complications that can occur from IT delivery systems. Appropriate dosing of medications is essential as IT therapy has been known to cause serious adverse effects, including sedation, respiratory depression, hypotension, opioid-induced hyperalgesia, hypogonadotrophic hypogonadism, and even mortality.\(^9\) In addition, dose and concentration of medication can contribute to the development of granulomas.\(^9\)

When evaluating the patient’s current IT medications and doses,

> “It is strongly recommended that transfers of care involving a pump patient be planned in advance with all parties involved to optimize the overall treatment of the patient.”


## Table 1: Suggested concentrations and doses for intrathecal agents by the Polyanalgesic Consensus Conference panelists in 2012.\(^{10}\)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Maximum Concentration</th>
<th>Maximum dose per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>20 mg/ml</td>
<td>15 mg</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>15 mg/ml</td>
<td>10 mg</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>10 mcg/ml</td>
<td>No known upper limit</td>
</tr>
<tr>
<td>Sufentanil</td>
<td>5 mg/ml</td>
<td>No known upper limit</td>
</tr>
<tr>
<td>Bupivacaine</td>
<td>30 mcg/ml</td>
<td>10 mg</td>
</tr>
<tr>
<td>Clonidine</td>
<td>1000 mcg/ml</td>
<td>40-600 mcg/day</td>
</tr>
<tr>
<td>Ziconitide</td>
<td>100 mcg/ml</td>
<td>19.2 mcg/day</td>
</tr>
</tbody>
</table>
process causing worsening of pain should be excluded. One may consider adding an adjuvant prior to changing medications if the patient is tolerating the primary medication without adverse effects. If unable to meet objective goals of treatment, it may be necessary to wean IT medications.

Another important consideration is granuloma formation in patients with worsening pain despite increased dosage of IT medications (Figure 2). Signs and symptoms include decreased response to medications, increased pain, new thoracic spine pain, gastrointestinal pain, lower extremity weakness or paralysis, new bowel or bladder dysfunction, new radicular pain near the dermatomal level of the catheter tip, and any new neurologic sign. Patients who have received high concentrations of IT opioids at any time, those receiving high concentrations with low flow rates, patients with steadily increasing concentrations of opioid medications over time, patients with a history of previous

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The transversus abdominis plane (TAP) block, as first described by Rafi, has reinvigorated our interest in regional anaesthesia in the treatment of pain post-abdominal wall surgery. Numerous studies have shown that the TAP block, when used as part of a multimodal analgesic regimen, is an effective component in reducing patients’ postoperative pain scores. The original approach described the insertion of a needle via the lumbar Triangle of Petit, using a “double pop” or “loss of resistance” technique, which resulted in the needle tip being placed within the TAP. The initial working theory was that infiltration of local anaesthetic at this point would result in blockade of the somatic nerves innervating the anterior abdominal wall, by localized spread within the TAP. In recent years, our understanding of this block has expanded thanks to a large number of clinical, anatomic, and distribution studies. The introduction of ultrasound into routine clinical practice and the ease of image acquisition has resulted in more reliable needle tip placement within the TAP under image guidance. Although one may have assumed this would lead to improved quality of block, it has in fact led to more questions with different block characteristics being observed with the various needle insertion points.

ANATOMY AND DISTRIBUTION STUDIES
Owing to numerous cadaveric studies, our knowledge of the anatomy and neuroanatomy of the abdominal wall has expanded. The sensory innervation of the anterolateral abdominal wall arises from the anterior rami of the six lower thoracic and upper two lumber nerves. Branches arising from the anterior rami comprise the intercostal nerves (T6-T11), the subcostal nerve (T12) and the iliohypogastric and ilioinguinal nerves (L1) which give rise to lateral and anterior cutaneous branches as they become more superficial. The intercostal nerves exit the intercostal spaces and traverse a course between the internal oblique and the transversus abdominis muscles. The subcostal and the ilioinguinal and iliohypogastric nerves also travel in this plane innervating both the transversus abdominis and internal oblique muscles. The thoracic nerves continue anteriorly from the TAP to pierce the rectus sheath and finally end as anterior cutaneous nerves.

Recent contrast studies have added to our knowledge of the distribution of injectate on performing a TAP block. Using cadaveric specimens and a landmark technique, McDonnell et al injected dye into the TAP at the triangle of Petit. Upon dissection of the specimens, it was shown the dye was distributed from the iliac crest to the costal margin. Using radio-opaque dye, they also performed landmark-based TAP injections on healthy male volunteers and then performed computed tomography (CT) imaging and magnetic resonance imaging (MRI) which showed consistent spread of contrast in the TAP. Tran et al injected dye under ultrasound guidance into the TAP plane above the iliac crest and demonstrated the spread of dye between the iliac crest, costal margin and rectus muscle with an average area of 45cm² and found the spread of dye to involve the nerves T11 – L1. Using a subcostal approach and ultrasound guidance, Barrington et al deposited dye in cadavers using both single and multiple injection techniques. On dissection, they found the single injection to involve nerves T9 and T10 but the multiple injection technique to involve nerves T8 to T11. Investigating TAP block combinations in volunteers in the anterior abdominal wall and describing the resulting spread of local anaesthetics with MRI, as well as efficacy in dermatomal anaesthesia, Børglum et al demonstrated the necessity of...
selective blockade of the intercostal TAP plexus (upper abdomen) in combination with the lateral TAP plexus (lower abdomen) if the intent is to provide analgesia to the entire abdominal wall. Carney et al\textsuperscript{11} used serial MRI scans to establish the spread patterns of four blocks: the landmark-based block, the ultrasound-guided subcostal block, the ultrasound-guided lateral block, and the ultrasound-guided posterior approach as described by Blanco.\textsuperscript{12} MRI scans showed that the spread pattern of the subcostal and lateral blocks was confined locally around the point of injection and around the TAP of the anterior abdominal wall. Interestingly, and importantly, the landmark-based and ultrasound-guided posterior approach showed additional consistent spread of contrast to involve the paravertebral spaces between T4 and L1 (Figure 1). Most recent studies highlight that not all blocks are the same and that the point of needle insertion, and subsequent spread pattern that is obtained, significantly alter the pharmacodynamics of the block. It is now recognized that the more posterior blocks, with needle positioning closer to the original landmark-based approach, result in a wider analgesic window in terms of dermatomes and temporal blockade.\textsuperscript{3}

**ANALGESIA**

Since the original landmark-based trials, the TAP block has been the subject of numerous studies, meta-analyses, and systematic reviews assessing its analgesic effectiveness and opioid-sparing effects. Recent reviews\textsuperscript{3} have reported more prolonged analgesia with the more posterior approaches. This prolonged analgesia is likely due to extension of local anaesthetic into the paravertebral space as previously described.\textsuperscript{7} The realization that the more posterior the block, the better analgesic outcome for the patient, has led researchers to further question the optimal site for local anaesthetic deposition. The basic concept is that if the major effect of a TAP block is not in the TAP plane, but rather distally in the thoracic paravertebral space, then moving the injection point more posteriorly will result in similar extension of the local anaesthetic solution to the thoracic paravertebral space with similar analgesic profiles. Newer modifications of the TAP block concept include the Quadratus Lumborum (QL) blocks with deposition of injectate adjacent to the antero-lateral aspect of the QL muscle.\textsuperscript{13} The spread pattern obtained by this approach is comparable to that of the landmark-based TAP block, in that there is extension into the thoracic paravertebral space.\textsuperscript{14}

The notion of the posterior TAP block was further investigated by Berglum et al\textsuperscript{15} with much inspiration from the initial methodology described by McDonnell et al and Blanco et al. Since the spread

**Figure 1:** Contrast in the paravertebral space after landmark-based TAP block.

**Figure 2:** Transmuscular Quadratus Lumborum (QL) Block: the needle is inserted in-plane to the transducer and advanced through the QL, injecting the local anesthetic in the fascial interspace between the QL and psoas muscle (PM).

“Most recent studies highlight that not all blocks are the same and that the point of needle insertion, and subsequent spread pattern that is obtained, significantly alter the pharmacodynamics of the block.”

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We perform many specialized regional blocks that provide prolonged analgesia with minimal side effects for our patients and potentially offer improved outcomes and early discharge. However, there are risks with these increasingly complex procedures. Have you ever forgotten to check the coagulation status before inserting the needle? Or neglected to label your medications? Or (hopefully never) found yourself blocking the wrong site? The procedures and safety steps have become more demanding, and we are blessed with a barrage of advisories and guidelines from external agencies to enhance patient safety – the Joint Commission (JC), the Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDC), the American Society of Anesthesiologists (ASA), and even our own American Society of Regional Anesthesia and Pain Medicine (ASRA). It is overwhelming to remember them all and comply with them in the presence of modern “production pressure.”

Checklists are a great tool to help overcome fallible memory in complex tasks. In addition to the World Health Organization (WHO) pre-surgical checklist and “pause,” many practitioners are already using a version of the JC “Universal Protocol” to help avoid wrong-sited procedures in the block room. There are many other steps we cannot afford to miss. Given this complexity, in 2013, ASRA President Dr. Joseph M. Neal asked a “task force” of three senior members (Drs. Greg Liguori and Robert Weller plus the author) to review current practices, external guides, and the sense of the membership to see if a relatively “standard” pre-block checklist could be drafted, recognizing that any such document would need modification for local customs.

The task force initially reviewed their own experiences and the basic guidelines available. The JC Universal Protocol for a pre-procedural pause served as the core of the first draft, with its clear insistence on three core principles: preprocedure verification, site marking, and a time-out expected to be performed prior to any elective invasive procedure. The recent FDA advisory on checking anticoagulation as well as ASRA guidelines on aseptic technique were also included. Through a Delphic process, they designed a preliminary version of a checklist which was introduced at the Spring ASRA Regional Anesthesiology and Acute Pain Medicine Meeting in Boston in May 2013. While there were many useful feedback comments from ASRA members at this time, the suggestions represented a small portion of the membership. The task force then sought more in-depth feedback from a group perceived to be intensely involved in the “cutting edge” of regional blocks, the Directors of the 63 Regional Anesthesiology and Acute Pain Medicine Fellowship programs. An internet survey of this group confirmed many of the comments from the general membership and provided a basis for modifications of the original checklist. Further insight was obtained by surveying the graduates of these Fellowship programs for the last 3 decades, who generally supported the thoughts of the Fellowship Directors and membership.

One example of the process was the open discussion of the need for “removal of jewelry.” Although there was universal agreement about hand washing and gloves, jewelry was more controversial. Reviewing the original ASRA guidelines, it was noted that this step reduced bacterial colonization on the performer, but was “Grade B” evidence not conclusively linked to reduced infections, so this step was left to local custom. Several participants noted that their local practice made some of the steps unnecessary, such as “resuscitation drugs” which were always stocked in the block area, but many of these steps were left in the final draft to ensure completeness. Many members pointed out that the original suggestion to “check DNR status” was not appropriate for the pre-block pause. Thus the final 9-item version of the proposal (Table 1) was rearranged and altered and will be published in Regional Anesthesia and Pain Medicine in the May-June issue this year.

As mentioned, several items were clearly susceptible to local custom, particularly the local policies regarding surgical site marking. Thus the authors drafted an additional table of “Recommendations for the use of the checklist” included as an appendix to the publication. These recommendations address the unresolved issue of the degree of documentation of the performance of the checklist. Although the JC Universal Protocol requires documentation of completion of the time-out, it allows that “the organization determines the amount and type of documentation.” The ASRA recommendations acknowledge several alternatives, but there is insufficient guidance to suggest whether such a checklist or pause be part of the medical record or documented and recorded in some other way. Another controversial item left to local interpretation is the extent to which the checklist needs to be repeated for a second block on the same patient.

There was, however, agreement on the central thesis - using a checklist helps us avoid omissions and breaches of high quality care in a complex and often hurried environment. Each institution is encouraged to review the proposed items and adopt their own format. Whether this becomes a placard on the wall of the block room, a paper list to review with each case, or a part of the
granuloma, and those with disease states such as spinal stenosis or traumatic spinal cord injury are all at higher risk of granuloma formation.  

To minimize the risk of granuloma formation, pain physicians should use the lowest effective dose and concentration of IT opioid medication and possibly even use bolus dosing instead of a continuous infusion. Other suggestions to minimize the risk of granuloma formation include placing the catheter tip below the level of the conus when possible and using adjuvant non-opioid analgesics or ziconitide. One should also practice vigilant monitoring of patients for early detection of granuloma formation. This should include taking a complete history and physical on all patients receiving IT therapy at least every 6 months and monitoring for signs and symptoms of granuloma formation (Figure 2).

In conclusion, there are many challenges when taking over the care of a patient with an IT drug delivery system. With no clear standards to aid clinicians, it is best to re-evaluate the patient and tailor care to match available recommendations established by the recent Polyanalgesic Consensus Conference. It is strongly recommended that transfers of care involving a pump patient be planned in advance with all parties involved to optimize the overall treatment of the patient. When the patient and new managing physician engage in shared decision making within the framework of IT drug delivery guidelines, then a very rewarding and beneficial therapeutic relationship can be achieved.

medical record is an individual choice, but our patients deserve to feel that we are taking these appropriate safety steps with each and every one of them.

How I Do It: Managing an “Inherited” Intrathecal Pump Patient continued...

References
Cervicogenic Pain: a Headache for Patients and Providers

Continued...

pain. Further, the coexistence of occipital neuralgia and migraines headaches with CGH has been noted in the literature. Positive analgesic effect after interventional treatment remains a major way to diagnose potential headache patients. More research, specifically prospective studies of CGH patients, is required to parse out cause and presentation. These data, when gathered, would provide objective gold-standard evidence to lead us from controversy to agreement regarding the existence (or non-existence) of CGH. A cooperative effort between referring physicians, interventional pain physicians, surgeons, and physical therapists is recommended in the treatment of CGH patients.

References:
of local anaesthetic to the thoracic paravertebral space seems to be of crucial importance for the efficacy of posterior TAP blocks, it was hypothesized that a transmuscular approach with the needle tip positioned anterior to the QL muscle but posterior to the psoas major (PM) muscle would prove to be more successful (Figure 2). The spread to the thoracic paravertebral space is believed to result from the embryonic origin of the QL and PM muscles in the thoracic cage and the continuation of the transversalis fascia with the endo thoracic fascia at the level of the arcuate ligaments at the diaphragm. Thus, a transmuscular approach seems to be the best idea.

**The verdict is still out.** However, it would seem that the spread of local anaesthetic to the thoracic paravertebral space from the site of injection is important. Why is paravertebral extension so important, and why does the block last so long? We must not forget that the neuroanatomy of the abdominal wall arises from the thoracic region. The extension of local anaesthetic solutions to the thoracic paravertebral space, with subsequent combined sensory and sympathetic fiber blockade may result in the prolonged analgesic windows being obtained with the TAP and the derived abdominal wall blocks. The concept of sympathetic involvement in the transmission of acute pain is the subject of ongoing clinical trials. Future studies must elucidate this enigma.

**References**


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When I started my current job in 2010, the Veterans Health Administration (VHA) had just issued Directive 2010-023, “Ensuring Correct Surgery and Invasive Procedures,” and this VHA Directive was considered inclusive of regional anesthesia procedures. We have had a process similar to the ASRA checklist in place since then, and I acknowledge that implementing change is hard. Yes, following a checklist requires extra steps. Yes, it may even take more time. The bottom line is - it takes a lot more time, effort, and expense to deal with the complications that may result if you don’t do this. The ASRA checklist is not prescriptive and allows for local institutional interpretation and application. If I routinely use a checklist when I pack my suitcase, I can’t think of any good reason not to use one for the safety of my patients.

**References**

American Society of Regional Anesthesia and Pain Medicine
Advancing the Science and Practice of Regional Anesthesia and Pain Medicine

For more information about ASRA CME meetings and courses please visit our website at www.asrameetings.com
is assigned and accepted, the physician must now implement strategies to protect themselves and the patient.

The FDA has instituted Risk Evaluation and Mitigations Strategies (REMS) for pharmaceutical manufacturers. REMS programs for extended release and long acting opioid agents are offered free of charge to all physicians. The FDA recently mandated label changes for this category of pain medications. As a whole, there are multiple entities involved in the education, regulation, and prosecution of opioid therapy.

EVIDENCE-BASED OPIOID THERAPY

Several systematic reviews have been published since 2008 regarding chronic opioid therapy in the treatment of nonmalignant pain.\textsuperscript{2,9-11} The overall evidence for the treatment of nonmalignant pain with opioid therapy is not very strong. Although Level I evidence is limited or nonexistent, many physicians still believe that opioids can be used in a safe and effective manner. It should not be surprising that increasing opioid doses are associated with increasing morbidity and mortality. Patients who are prescribed greater than 100 morphine mg equivalents daily have a substantial increase of overdose and death.\textsuperscript{14-16} The treatment of cancer pain with opioid therapy may also pose similar challenges to the treatment of nonmalignant pain. Many cancer patients are living longer with more successful treatments and therefore are also susceptible to similar long-term abuse risks seen in the non-cancer pain population.

CONCLUSION

In summary, chronic pain is a much more complex disease than originally conceived. Physicians who treat chronic pain with opioid therapy are exposed to relatively high risks in patients with multiple comorbidities. With appropriate assessment and adherence monitoring, the risk can be managed and both the doctor and patient can achieve successful outcomes.

References
