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By the time this issue reaches you, I hope I’ll have had many opportunities to meet you at the annual conference in San Antonio. I’ve always had a good time at professional conferences. I’ll bet many of you have noticed a pattern to your conference attendance; it follows the same trajectory as Benner’s classic work on how nurses progress from novice to expert with the help of teachers along the way.

The first conference you go to, you attend all the basic sessions—for me as a new grad in critical care, that meant fluids and electrolytes, basic arrhythmias, acid/base balance and blood gases, ventilator management, and some fun sessions on the new and exciting research on endogenous corticosteroids in stress (Hans Selye himself spoke that year), neurology weirdness, and hemodynamic monitoring. After a year or two, you notice you gravitate to more advanced topics.

As your professional life goes on and you begin to take some formal or informal leadership roles, you pick up new subspecialties and want to attend associated conference topics. If you attend more basic ones it’s not for the knowledge, but to see how others teach them so you can help others learn what you know. Maybe you’re running a business where you teach your employees or your subcontractors. Gradually, you realize that your practice has reached the expert stage. You wonder if there’s going to be something new to learn at every conference you attend; you learn there is, even as you’ve discovered you’re getting asked to be a presenter with that augmented badge and all.

As nurses, we began to teach in our first clinical rotations (even when we didn’t know very much at all). As life care planners now, though, we’re expected to teach not just patients but attorneys, triers of fact, trust officers, and others who need to know what we know. Let’s not forget the ones coming behind us. Newer nurse life care planners will be looking to us as role models and teachers.

I’ve always felt that one of the great things about nursing is that it’s explicitly collaborative. We help each other out. I remember the day I decided to take up life care planning and cold-called two nurse life care planners in my area after finding them in Google. Each spent more than an hour with me, a perfect stranger, telling me about nurse life care planning, getting clients, education, and the association. They could have said, “Hmmm, a new competitor, I’ll just blow her off,” but they didn’t. I felt welcomed and encouraged to stay in touch with these women as colleagues, and I have.

This is why I always have time to chat when somebody calls me with a question. Sometimes I don’t have a good answer, but I can usually send them to someone who does. Mostly, though, I just want to do what I can to help other people understand nurse life care planning, the power that the nursing process gives to all of us at every level. I’m easy to find on the ‘net, and I get these calls pretty often; I hope I can always be of use, like Homer in John Irving’s classic The Cider House Rules. You probably do too.

We’re nurses. We can help. Hope you all had a great conference!

Wendie A. Howland MN RN-BC CRRN CCM CNLCP LNCC
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Information for Authors

AANLCP® invites interested nurses and allied professionals to submit article queries or manuscripts that educate and inform the Nurse Life Care Planner about current clinical practice methods, professional development, and the promotion of Nurse Life Care Planning within the medical-legal community. Submitted material must be original. Manuscripts and queries may be addressed to the Editorial Committee. Authors should use the following guidelines for articles to be considered for publication. Please note capitalization of Nurse Life Care Plan, Planning, etc.

Text
Manuscript length: 1500 – 3000 words
- Use Word© format (.doc, .docx) or Pages (.pages)
- Submit only original manuscript not under consideration by other publications
- Put the title and page number in a header on each page (using the Header feature in Word)
- Use Times, Times New Roman, or Arial font, 12 point
- Place author name, contact information, and article title on a separate title page, so author name can be blinded for editorial review
- Use APA style (Publication Manual of the American Psychological Association)

Art, Figures, Links
All photos, figures, and artwork should be in JPG or PDF format (JPG preferred for photos). Line art should have a minimum resolution of 1000 dpi, halftone art (photos) a minimum of 300 dpi, and combination art (line/tone) a minimum of 500 dpi. Each table, figure, photo, or art should be on a separate page, labeled to match its reference in text, with credits if needed (e.g., Table 1, Common nursing diagnoses in SCI; Figure 3, Time to endpoints by intervention, American Cancer Society, 2003) Live links are encouraged. Please include the full URL for each.

Editing and Permissions
The author must accompany the submission with written release from:
- Any recognizable identified facility for the use of name or image
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All authors must disclose any relationship with facilities, institutions, organizations, or companies mentioned in their work. All accepted manuscripts are subject to editing, which may involve only minor changes of grammar, punctuation, paragraphing, etc. However, some editing may involve condensing or restructuring the narrative. Authors will be notified of extensive editing. Authors will approve the final revision for submission. The author, not the Journal, is responsible for the views and conclusions of a published manuscript. Submit your article as an email attachment, with document title articlename.doc, e.g., wheelchairs.doc

All manuscripts published become the property of the Journal. Manuscripts not published will be returned to the author. Queries may be addressed to the care of the Editor at: whowland@howlandhealthconsulting.com

Manuscript Review Process
Submitted articles are peer reviewed by Nurse Life Care Planners with diverse backgrounds in life care planning, case management, rehabilitation, and the nursing profession. Acceptance is based on manuscript content, originality, suitability for the intended audience, relevance to Nurse Life Care Planning, and quality of the submitted material. If you would like to review articles for this journal, please contact the Editor.

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A CORE CURRICULUM
for
NURSE LIFE CARE PLANNING

American Association of Nurse Life Care Planners

Dorajane Apuna-Grummer
Wendie A. Howland
Editors
A Message from the President

I’ve watched AANLCP evolve since attending my first AANLCP conference in Chicago. I’ve always been impressed by our membership’s dedication and diverse knowledge. The efforts of so many who shared their passion, knowledge, and time have brought us to where we are today. Look around! Our Association influences our whole industry and defines who we are as nurse life care planners. We are making a difference!

I am thrilled to announce that the long-awaited AANLCP Scope and Standards of Practice has been published and is now available for purchase on the website. This is a must have document that addresses the scope of practice and defines the standards of practice and professional performance for all registered nurses identified as nurse life care planners. The standards define, guide, and provide a theoretical foundation for nurse life care planning in all settings. Many thanks to all who participated in the workgroup and dedicated countless nights and weekends to bring you this important document.

On a more somber note, we were recently informed that this fall Wendie Howland will be retiring from her position as our Journal Editor. Wendie joined the Association in 2008 and began editing articles almost immediately. Her position as Editor formally began with the March 2009 issue, when the Journal became the quarterly peer reviewed publication we know today. For many years, Wendie provided editing, layouts and graphics, which she produced on her Macintosh. She also worked on the final version of the Core in 2013 as editor. Working together with the dedicated members of the Journal Committee, Wendie has never missed a deadline. Her philosophy – “Get good people, give them what they need, check in now and then, and stay out of their way.” Please join me in offering our heartfelt thanks for Wendie’s many years of devoted service.

When the executive board met this past October, we spent four days analyzing and updating our strategic plan. We will continue to push our goals for 2016, focusing on providing you with the resources and support you need to achieve excellence in your practice. As we look ahead, there is still much to do. We continue to evaluate and update programs rolled out during 2015. We’re also refining our procedures to prepare and orient new Association leaders more effectively.

We value your ideas and need your help. Don’t be afraid to get involved. Our committees offer a variety of opportunities. If you have questions or are looking for additional information, please call, email, or complete the Willingness to Serve form on our website (aanlcp.org/about us/committees/willingness to serve).

As Franklin said, “Hide not your talents, they for use were made / What’s a sundial in the shade?” If you have a true passion for something, don’t be afraid to be a part of it. For some, even the idea of adding one more commitment to an already-busy schedule can be daunting. As for me, I think complacency isn’t really fulfilling, and I’ve never regretted taking that “leap of faith.”

I look forward to serving as this year’s AANLCP president. Together with the talent, creativity, and dedication of the Executive Board and committee members, we will continue the excellent work of our past president, Victoria Powell, enhancing and perfecting the many educational programs, mentorship opportunities, and resources developed to enrich your practice. We want to create a lifelong spirit of belonging and pride in the AANLCP. I welcome your participation and your ideas.

Patricia Rapson, RN, LMT, CCM CLCP, CNLCP, LNCC, MSCC
President, AANLCP

parapson@yahoo.com
Coming!
Summer 2017
Core Curriculum for Nurse Life Care Planning
2nd edition

To contribute, contact
AANLCP
801-274-1184
Contributors

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("A Simple Review For A Not So Simple Pathology" and "A Child in Pain") She earned her Bachelor of Science degree in Nursing from Penn State University in 1996 and a certificate of Perfusion from Texas Heart Institute in 1998. In 2013 she became a Certified Legal Nurse Consultant and 2014 she completed her Life Care Plan education and certification from Capital University Law School.

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University Harrison School of Pharmacy. Both authors have extensive experience nationally in working with health professionals, employers, insurers and TPAs in managing drug therapy in the general and worker's compensation population.
to this Issue

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YOUR INTERNATIONAL LIFE CARE PLANNING EXPERIENCES WANTED

- Have you ever written a life care plan incorporating considerations due to:
  - Cultural differences
  - Religious beliefs
  - Spiritual customs
  - Caretaking customs
  - Social customs about the elderly
  - Beliefs about disabilities
  - Differences in pain perception and behaviors
  - Differences in communication
  - Differences in health care practices, providers, or maintenance
  - Different financial resources abroad

- How did these work out? What would you do differently? Why?
- Have you ever done a home assessment for a life care plan considering cultural differences?
- What is the single most important difference to respect when providing LCP services to a person from a different culture?
- What source of information should you review before interviewing a person from a different culture?
- How can you determine you have broken an unknown standard when interviewing a new client internationally?

The JNLCP is planning an issue on life care planning with an international flavor for Fall 2016. We’ll have some articles from LCPrs in other lands, and would also like to include your insights on cultural aspects of care anywhere.

Please send your experiences, good and bad, examples, opinions, and advice on any of these for a Round Table discussion to the Editor at whowland@howlandhealthconsulting.com. Anonymity guaranteed if you prefer, and don’t worry about formatting!

(LETTER TO THE EDITOR)

Correction: LCP After Neonatal Encephalopathy

The intent of the meaning of collaboration in my article was lost during the editing process. On page 948, the article notes, “Collaboration with the child and family is critical for success; no plan of care can succeed if it does not include their goals.”

My correction should read, “The better the quality of assessment, communication, and collaboration during plan development, the higher the quality of the end result. This includes involvement with the child and family as well as collaboration with the referral source, treating medical, therapeutic, and educational providers, and experts.”

Linda Husted, MPH, RN, CNLCP, LNCC, CCM, CDMS, CRC

We regret the error and thank Ms. Husted for her correction.
In the few years that I have been away from the hospital bedside, I’ve discovered that some things really have changed. And if you’re like me and haven’t actually worked in a rehabilitation hospital, a physician’s office, or in pain management, you might not be familiar with all the exciting things that are happening in pain management. Not physician pain management, nursing pain management.

With this in mind, I decided to join the American Society of Pain Management Nursing (ASPMN.) This professional nursing organization supports and educates all nurses who manage pain. They say, “All nurses are pain management nurses.” After all, one of our primary goals as registered nurses is to relieve pain and suffering.

Certification is available in Pain Management Nursing, recognized by ANA as a nursing specialty. At the 2015 annual meeting that I attended in Atlanta, GA, it was announced that over 600 nurses were certified as pain management specialists. The Society is also involved with laws for opioid prescriptions and those persons who have prescribing privileges. At the annual meeting, nurse practitioners appealed for changes in the law to give them independent prescribing privileges to better service their chronic pain patients.

Membership is available at aspmn.org and the cost is $125 per year. You will receive a quarterly journal, list serve and other benefits. The annual convention is scheduled for September 7-9, 2016 in St. Louis, Kentucky. Hope to see you there!

I purchased their “Core Curriculum for Pain Management Nursing” edited by Dr. Barbara St. Marie, a pain management nurse. This large soft-covered book holds many chapters of interest to nurse life care planners in four sections: “Foundation of Pain Management Nursing,” “Advocating for Patients in Pain,” “Clinical Practice in Pain Management Nursing,” and “Support for the Practice of Pain Management.”

“Clinical Practice in Pain Management Nursing” includes lengthy chapters on pain assessment, integrative therapies used in pain management nursing, moderate sedation/analgesia, acute pain management, persistent pain management, cancer pain management, pediatric pain management, palliative care and gerontology pain management.

The chapter called “Moderate sedation/analgesia” can bring you up to date on procedures used in burn care, treatments, and interventional therapy sedation.

As you know, most of our plans include provisions for pain. Over half of my own plans have been for neck and back pain; many have pain with spinal cord injuries, burns, amputations, brain injury pain, and, of course, chronic pain as well as post-operative pain.

The chapter on “Persistent pain management” on interventional pain procedures is very valuable for life care plans. The chapters on outpatient pain management and interventional procedures provide education on current standards in pain management.

This textbook is a good guide on the standards of pain and its treatment and this book should serve you well as an authoritative reference for your life care plans. A new edition is scheduled to be released in 2017, but you will benefit from the 2014 edition. You may order this book by calling 800-228-0810 or email orders@kendallhunt.com.

The Core Curriculum for Pain Management Nurse is available for purchase from ASPMN at orders@kendallhunt.com

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ASPMN Chapters, US

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BEING MORTAL. MEDICINE AND WHAT MATTERS IN THE END

ATUL GAWANDE

Dr. Atul Gawande’s book, “Being Mortal: Medicine and What Matters in the End,” published by Metropolitan Books in 2014, looks at the failure of the American health care system to address end-of-life issues. This New York Times nonfiction bestseller is a must-read for those with elderly relatives and for nurses working with the elderly, critically ill and dying, and/or reviewing medical records.

Gawande looks at global economic development and its effect on both the history of caring for the aged and dying and on the attitudes of the elderly and adult children. He offers that modernization did not demote the elderly but rather demoted the family. The separation between generations expanded as old traditions were put aside and individuals became more focused on themselves and their sense of freedom and control and away from a sense obligation and reverence towards the elderly.

He reminds us death is not failure, but normal. Advances of modern medicine have contributed to longer life spans and delayed the downward spiral of health staving off death, and although the death remains the ultimate result, “old age” is unlikely to appear on a death certificate. Modern medicine’s goal is focused on managing diseases and injuries while neglecting the inescapable aging process with its many challenges and end result. “Mortality can be a treacherous subject,” and physicians reluctant to acknowledge patients’ inevitable decline and death instead are apt to prescribe treatments that have the potential of inflicting far more harm than comfort.

Gawande notes the effect of the lack of geriatric courses offered to medical students, the lack of prestige or financial incentives for geriatricians, and the institutional response to the financial losses associated with geriatric units. Stating that nursing homes were created to “clear out hospital beds,” Gawande notes that when Medicare passed in 1965, many facilities could not meet basic health and safety standards. So the Bureau of Health Insurance developed the concept of “substantial compliance,” resulting in an explosion of new nursing homes in 1970 and some 13,000 reports of neglect and abuse. Tighter regulation and care improvements followed, but caring continues to fall short. Missing is consideration for individuals’ goals and rights to control their destinies, to take risks that satisfy the desires they cherish even if they are contrary to medical advice.

The admirable philosophy of Dr. Keran Wilson, founder of assisted living facilities (ALFs), became buried by regulations to prevent potential liability, so much so that ALFs are now considered just a step along the way to a nursing home. Dr. Bill Thomas’s successful experiment in transforming traditional nursing homes into “homes” for its residents led to a 38% drop in drug costs and a 15% decline in deaths. Unable to explain the reason for the lower death rate he postulated, “I believe that the difference in death rates can be traced to the fundamental human need for a reason to live.” By introducing pets and live plants for the residents to help care for and opening up an on-site day care center and an after school program, this plan dispelled residents’ sense of loneliness: they were given a chance to care for other living things.

Spurred on by his success and funding from the Robert Wood Johnson Foundation, Thomas launched the National Green House Replication Initiative to support the construction of Green Houses in twenty-five states. Designed as home-like units, they foster the idea that life is worth living. Residents are encouraged to set their own priorities and make choices as much as possible. Although a successful model, it unfortunately does not reflect the reality in most nursing homes today.

Many of the facilities established to care for the elderly – hospitals, rehabilitation centers, nursing homes, and ALFs – fail to adequately address end-of-life issues. Advanced health care directives and living wills need to be accompanied by a discussion of their choices, end-of-life wishes, and the complexities associated with the options. Such discussions can be uncomfortable for the healthcare provider.

According to Gawande, physicians who typically have a paternalistic, informative, or interpretive relationship with their patients need to step out of their comfort zones, communicate their concerns, and ask patients about their own concerns and fears. This is not an easy task, as Gawande illustrates when he shares his personal experiences and discomfort in attempting to balance issues faced by his patients as well as members of his own family.

Gawande concludes that life is not just about safety and living longer, but about having the ability to help shape and add meaning to life. Dying is a process. Care professionals need to be educated on how to approach discussions of end-of-life issues and to assist people to share their end-of-life stories in a way that reflects their priorities.

ANN M. PETERSON, RN, EdD, MSN, FNP-BC, LNCC
CHRONIC PAIN:
A SIMPLE REVIEW FOR A NOT SO SIMPLE PATHOLOGY

KELLY K. CAMPBELL, RN, BSN, CP, CLCN, CLCP
MICHAEL STANTON-HICKS, MD

Chronic pain manifests in myriad ways. Sometimes, large areas of the body are affected. At other times, pain zeroes in on key targets, such as the big toe. In pain syndromes (aggregates of symptoms that occur simultaneously), whole regions and several systems in the body may be affected. Furthermore, the causes of pain are diverse. Here are some of the most common and most notable compass points in the vast diagnosis we know as chronic pain. This physiological review is meant to assist the Life Care Planner as a resource for various chronic pain syndromes.

Arthritis
Arthritis is one of the most common chronic health problems in our society. An umbrella term for more than 100 diseases that target our joints and musculoskeletal system, arthritis produces joint pain, stiffness, inflammation, and in some cases deformity. Bones, tendons, and ligaments are affected, along with surrounding muscles. This can make simple tasks such as tying a shoe, opening a jar, or walking across a room extremely difficult. A life care planner can and should incorporate these anticipated difficulties into the care plan; whether it is recommending assistive devices for opening that jar, occupational therapy to maintain skills, strength, and independence, etc.

Osteoarthritis is the most common form of arthritis. It develops gradually after age 40 in the hips, knees, lower back, hands, and neck (cervical spine). Why it develops is not understood, but risks are greater in individuals who have a family history of osteoarthritis, are overweight or sedentary, have fractured or overused a joint or have sustained a nerve injury. Osteoarthritis erodes the cartilage that lines and serves as a shock absorber for the joints, producing direct, painful bone-on-bone contact. The pain can be severe, to the point where the patient cannot bear weight.

Nursing Diagnoses to Consider: Chronic pain syndrome; Impaired physical mobility.

The life care plan can provide resources and suggestions proven to reduce additional risk factors for the patient’s increased pain and improve quality of life. For example, there are many different types of adaptive equipment that can help make life easier in the home, such as door knob extenders, key turners, hand rails, shoe horns, etc.

Rheumatoid arthritis (RA) is most common among women between 30 and 50 years of age, and affects children as well. Caused by an abnormal immune system response, rheumatoid arthritis triggers inflammation that swells the linings of numerous small joints. It usually affects joints symmetrically and most frequently occurs in the wrists, hands, elbows, shoulder, knees and ankles. Typically, these joints become tender, red, and swollen when fluid collect within the joint during flare-ups. The end result is usually joint deformity and limited movement.

It will be important to emphasize a balance between rest (which will reduce inflammation) and exercise (which will relieve stiffness and promote strength over weakness). Studies have shown that even as little as 3 hours of PT over a period of 6 weeks can help RA, and that these benefits are sustained. (University of Maryland Medical Center, 2016.)

Many complications of RA are the result of chronic inflammation, including organs in severe cases. Common symptoms and complications of RA include: joint deterioration, peripheral neuropathy, anemia, eye problems, periodontal disease, infections, skin problems, osteoporosis, lung disease, vasculitis, heart and circulatory diseases, kidney and liver problems, lymphoma and other
Fibromyalgia is an arthritis-related syndrome that produces severe pain in muscles, tendons, and ligaments throughout the body. Five times more common in women than in men, fibromyalgia is usually diagnosed between ages 20 and 50 (Stanton-Hicks, 2010). The American Pain Foundation also classifies it under myofascial pain syndromes. Fibromyalgia produces early morning stiffness and pain in muscles, ligaments, tendons and soft tissues all over the body, as well as fatigue. Many characterize their pain as deep, aching, throbbing, radiating, and occasionally as burning or stabbing. The skin may become so sensitive to touch that patients will say, “It just feels like sunburn all over.” For some, pain diminishes as the day goes on, only to return in the evening.

Patients often suffer sleep disturbances, headache, numbness in the hands and feet, depression, and anxiety. Pain may be aggravated by activity, cold or damp weather, and stress.

Fibromyalgia was once considered a psychosomatic illness, but in 1990 the American College of Rheumatology recognized it as a legitimate diagnosis, based on two criteria: (Stanton-Hicks, 2010).

- A history of widespread pain above and below the waist on both sides of the body, lasting for at least three months
- Presence of pain in at least 11 of 18 tender-point sites on the neck, shoulders, chest, rib cage, lower back, thighs, knees, arms (elbows), and buttocks

The diagnosis of fibromyalgia is complicated by its association with irritable bowel syndrome and bladder disorders, and the fact that it is a secondary complication of lupus, rheumatoid arthritis, and Lyme disease. Fibromyalgia can be distinguished from rheumatoid and other forms of arthritis because the telltale joint swelling and deterioration associated with arthritis are absent. In addition, the soft tissue tender points of fibromyalgia differ from the specific trigger points of other myofascial pain syndromes (Stanton-Hicks, 2010). These tender points in muscles send pain radiating outward and sometimes occur in isolation.

Nursing Diagnoses to Consider:
Disturbed sleep pattern; Fatigue; Anxiety; Risk for dysfunctional gastrointestinal motility; Impaired urinary elimination.

Headache
Headache is defined as any pain around the head, behind the eyes, or between the neck and the back of the head. Headaches are the most common pain symptom in the United States. Each year, 8 million Americans visit their doctors because of headaches (Stanton-Hicks, 2010).

Approximately 45 million of us report chronic headaches, and half of us consider them to be severe or disabling, according to the American Pain Foundation. During a yearlong survey by the National Pain Foundation headaches were found to last:

- 1 – 5 days for 40 percent of respondents
- 6 – 10 days for 25 percent of respondents

The three main headache disorders are migraine, cluster, and tension headaches. Nursing diagnoses to consider for all headache disorders include but certainly are not limited to: Acute pain; Chronic pain Syndrome; Impaired comfort; Ineffective role performance.

Migraine headaches affect 25 to 30 million Americans between the ages of 15 and 55. They are a huge problem for our society. Each year, migraines are responsible for a staggering 157 million lost days of work, at a cost of $17 billion (Stanton-Hicks, 2010).

Women are three times as likely as men to develop these vascular headaches, which are triggered by the release of chemicals from the trigeminal nerve in the face. The chemicals irritate and swell blood vessels that wrap around the brain. The result is typically moderate to intense pulsating or throbbing on one side of the head – typically around the eye or temple. Migraines last 4 to 72 hours and sometimes longer.

The clearest indications of a migraine are the presence of nausea or vomiting, extreme sensitivity to light and sound, and in 20 percent of migraine suffers, an aura. Auras may involve a disturbance in vision, tingling sensations, or difficulty speaking, and they herald the onset of migraine within 20 minutes to an hour. Common migraine triggers include serotonin imbalance, hormonal changes, food and food additives, sensory stimuli, stress, disturbed sleep pattern, and environmental changes.

Cluster headaches earn their name because they occur in clusters over periods of weeks or months, then disappear for months or years at a time. They most often affect men over age 40. These vascular headaches arise from swollen, pulsating blood vessels on one side of the head. Burning, piercing pain...
usually starts behind one eye and spreads across that side of the face, causing flushing, tearing, and sweating. Cluster headaches typically attack with little warning, sometimes more than once a day in the same area. Pain may last from minutes to hours and is severe enough to awaken a person from sleep serving as an unwelcome alarm clock (National Headache Foundation, 2015).

Tension headaches are the most common type of headache, with nine out of ten Americans adults having experienced them. Also called muscle-contraction headaches, they arise from the tightening of muscles in the scalp and neck in reaction to stress or anxiety, holding the head in one position for prolonged periods, and other factors, including eyestrain, fatigue, and excessive caffeine or nicotine intake. Tension headaches usually produce mild to moderate pain that feels like a vise gripping the head or like dull pressure all over. The pain is mainly felt in the scalp, temples, or back of the neck.

Headaches can also serve as secondary symptoms of a primary problem such as head injury, high blood pressure, brain tumor, stroke, fever, or infection. A physician will take a careful history, asking about onset, duration, character, location, and possible causes. CT (computed tomography) or an MRI (magnetic resonance imaging) scan of the head can help make the diagnosis (Stanton-Hicks, 2010).

Progressive muscle relaxation and distraction techniques, massage, and stress management may be beneficial for controlling and preventing severity of headaches for individuals suffering with any of the headache disorders (American Council for Headache Education, 2011, Bendtson, Jenson, 2009).

**Backache**

After headache, back pain is the second most common form of chronic pain in America. Our backs are integral to almost everything we do, and our lower backs bear most of the burden because our bodies bend there. For that reason, low back pain is extremely common and quite disabling.

Low back pain affects more than three-quarters of all Americans at some time in their lives. In fact, low back pain is the leading cause of disability in the United States for people under age 45, according to the American Pain Foundation (Stanton-Hicks, 2010). There are many causes of back pain.

Back strain, the main cause of back pain, results from straining spinal muscles and ligaments. It may be difficult to pinpoint exactly when back pain begins, because repeated stresses can be cumulative over years. The triggering event often occurs after heavy lifting. Sometimes the back muscles go into spasm. Most back strain resolves within several weeks with a combination of rest, exercises to recondition our protective back muscles, and training in good body mechanics (Stanton-Hicks, 2010).

**Spinal disk problems**

Approximately 1 in every 50 people will experience a herniated disk. Of these, 10% to 25% have symptoms that last greater than 6 weeks. They occur more often in people aged 35 to 55 years and are more common in men than in women (Cleveland Clinic, 2016).

Ruptured (herniated) disks can cause the gel-like material that cushions each vertebra to bulge, pressing on the spinal cord or nerve root with spinal flexion or extension. Pain that arises from a bulging disk is typically referred along the complete pathway of the affected nerve. For instance, pain from a ruptured disk in the cervical spine may extend over the shoulder, shoulder blade, and chest, weakening the muscles supplied by that nerve. A herniated disk in the lower spine may cause sciatica, pain caused by compression or irritation of the sciatic nerve, which extends from the lower spine down along the back of the leg. Because pain is triggered with sideways spinal motion, people with sciatica limit their movements, and their muscles further lose conditioning. Sciatica may progress to cauda equina syndrome, loss of bladder and bowel control (National Institute of Health, 2014). Numbness and tingling in the groin area may also occur. The goals of treatment are to prevent further injury and relieve symptoms.

Disk degeneration is a natural part of aging. However, not all people will develop symptoms. The pain associated with degenerative disk disease has two primary contributing factors: inflammation and abnormal micromotion stability; both can cause flare-ups with muscle spasm (Arthritis Foundation, 2016). These are quite painful because they disrupt muscle and create cascading pressure on the nearby nerve roots. Degenerative disk disease can hasten or lead to spinal stenosis and spondylolisthesis (osteoarthritis) (University of Maryland Medical Center, 2016).

Spinal stenosis is narrowing of the canal through which the spinal cord runs, as well as a narrowing of its opening(s) where nerve roots emerge. The canal can narrow because of arthritis or bony overgrowth. The symptoms are a result of nerve compression, a pinched nerve. Cervical stenosis can develop into severe problems of weakness, even leading to paralysis. In lumbar spinal stenosis, the lower back, it may manifest with back and leg pain that is aggravated by walking. Severe stenosis may include problems with sexual function, bowel and bladder function and foot disorders (National Institute of Arthritis and Musculoskeletal and Skin Diseases, 2013).

Spondylosis is arthritis of the intervertebral disks (which control movement of individual vertebrae in the spine), limiting flexibility. This causes disabling pain in the back and buttocks and behind the thighs, or in the cervical and thoracic spine. It can also occur in adults with fracture or disk degeneration.

Spondylolisthesis, when one vertebra slips forward over another in the spinal column, also occurs in adolescents because the growth plate is not fully developed. It may resolve in a growth spurt. Symptoms may include tingling, numbness, and weakness in arms, hands, legs, or feet; lack of coordination; difficulty walking; or loss of bladder or bowel control (Spondylitis Association of America, 2016).

The goals of assessment and treatment for the myriad spinal disk problems include differential diagnosis, lifestyle
The cause of a damaged nerve may be and location of the pain produced. The affected nerve determines the type of sweating and temperature disturbance electric pain along a nerve distribution, produces acute spasms of sharp, burning, peripheral nervous system. Neuralgia dysfunction or damage to the central or in one or more nerves resulting from pain, is dysfunctional pain originating Neuralgia, also called neuropathic pain, is highly susceptible to peripheral neurovascular disorders affecting many branches of the trigeminal nerve, with continuous aching, cramping pain involving the entire side of the face and even the neck and back of the head (American Council for Headache Education, 2011).

Postherpetic neuralgia, commonly known as shingles, involves an outbreak of fluid-filled blisters arising from nerve fibers that extend to the skin. After a patient recovers from chickenpox, varicella zoster remains dormant in nervous system. The virus reactivates with a weakened immune system. Burning, tingling, or numbness may herald the onset of shingles. This may be closely followed by fever, chills, headache, and stomachache. Several days later, painful blisters appear on a patch of flushed skin. The pain intensifies with time and may persist for months or years. Pain can be so agonizing that it interferes with tasks of daily living and independence, leading to depression and social isolation (Stanton-Hicks, 2010).

Occipital neuralgia occurs when the occipital nerve is damaged or inflamed by such conditions as trauma, neck tension, osteoarthritis, tumor, vasculitis, diabetes, gout, infection, and cervical disk disease. Severe, throbbing pain develops at the back of the head and sometimes extends to involve the front of the head and eyes, and may include extreme sensitivity over the scalp (American Association of Neurological Surgeons, 2013). Life care plans addressing neuralgias may consider nutritional monitoring, ADL evaluation, and intervention and education for coping.

Nursing Diagnoses to Consider: Risk for peripheral neurovascular dysfunction; Deficient knowledge.

Repetitive motion disorders (American College of Rheumatology, Arthritis Foundation).

Repeating physical actions daily takes a toll on the musculoskeletal system. Repetitive motion disorders (primarily ones that affect the wrist) are common in the workplace; upper-extremity repetitive disorders affect 44 of every 10,000 workers in the United States (Stanton-Hicks, 2010). In addition, more than half of sports-related injuries that result in visits to the doctor’s office arise from the performance of the same maneuvers over and over again (Stanton-Hicks, 2010).

Tendinitis leads to swelling and irritation of surrounding tissues, preventing full range of motion. Pain can become chronic. The names of various forms of tendinitis indicate its ubiquity: swimmer’s shoulder, tennis elbow, jumper’s knee, Achilles tendinitis, and trigger finger.

Tendinitis may be complicated by nerve involvement. The median nerve, which passes from the forearm to the palm through the carpal tunnel at the wrist, is highly susceptible to overuse injury. Involvement of the radial nerve, running along the forearm, is also susceptible to neuropathic pain in addition to musculoskeletal dysfunction. These nerve problems are responsible for highly debilitating chronic pain.

Bursitis is inflammation of a bursa, a small fluid filled sac that streamlines movement by serving as a cushion between moving bones, muscles, tendons, and skin, preventing friction and fraying of soft tissues. When the normally slippery sacs swell and roughen from inflammation, movement becomes painful. Bursitis most often strikes the shoulder, elbow, hip and knee, but can occur in other part...

Life care plan considerations for the various chronic back-pain syndromes may also include exercise therapy to promote strength, flexibility, and continued movement; education on body mechanics and ergonomics; and nutritional counseling on low inflammation dietary recommendations. (National Institute of Neurological Disorders and Stroke, 2015).

Nursing Diagnoses to Consider: Impaired walking; Impaired sitting; Impaired standing.

Neuralgias

Neuralgia, also called neuropathic pain, is dysfunctional pain originating in one or more nerves resulting from dysfunction or damage to the central or peripheral nervous system. Neuralgia produces acute spasms of sharp, burning, electric pain along a nerve distribution, with muscle weakness and sometimes sweating and temperature disturbance in the nerve region. The location of the affected nerve determines the type and location of the pain produced. The cause of a damaged nerve may be the result of an injury, an infection like shingles or Lyme, or a disease such as multiple sclerosis or diabetes. Common symptoms to all types of neuralgia include depressed and or anxious mood, insomnia, fatigue, and pain.

Trigeminal neuralgia causes frequent episodes of pain arising along the trigeminal nerve in the face caused by injury, infection, a tumor, or a metabolic disorder. This extremely debilitating disorder produces moderate to severe burning or aching pain, interrupted by brief sharp spasms. Patients may notice exquisite skin sensitivity or a dull tingling when touched. Severe shock-like pains can occur out of the blue, provoked by touching the facial skin, chewing, or talking. Patients with trigeminal neuralgia can become extremely depressed by the frequent episodes of pain. Atypical facial pain is another form of neuralgia affecting many branches of the trigeminal nerve, with continuous aching, cramping pain involving the entire side of the face and even the neck and back of the head (American Council for Headache Education, 2011).

Postherpetic neuralgia, commonly known as shingles, involves an outbreak of fluid-filled blisters arising from nerve fibers that extend to the skin. After a patient recovers from chickenpox, varicella zoster remains dormant in nervous system. The virus reactivates with a weakened immune system. Burning, tingling, or numbness may herald the onset of shingles. This may be closely followed by fever, chills, headache, and stomachache. Several days later, painful blisters appear on a patch of flushed skin. The pain intensifies with time and may persist for months or years. Pain can be so agonizing that it interferes with tasks of daily living and independence, leading to depression and social isolation (Stanton-Hicks, 2010).

Occipital neuralgia occurs when the occipital nerve is damaged or inflamed by such conditions as trauma, neck tension, osteoarthritis, tumor, vasculitis, diabetes, gout, infection, and cervical disk disease. Severe, throbbing pain develops at the back of the head and sometimes extends to involve the front of the head and eyes, and may include extreme sensitivity over the scalp (American Association of Neurological Surgeons, 2013).

Life care plans addressing neuralgias may consider nutritional monitoring, ADL evaluation, and intervention and education for coping.

Nursing Diagnoses to Consider: Risk for peripheral neurovascular dysfunction; Deficient knowledge.
of the body as well (Cleveland Clinic, 2016).

Repeated use of the shoulder, for example by pitchers in baseball, can injure the body's most complex and vulnerable joint. The protective bursa becomes inflamed along with neighboring rotator-cuff tendons. Add tendinitis to bursitis and you have should impingement syndrome. Friction between bones, tendons, and soft tissue causes pain with every movement. Repeated inflammation roughens and thickens bursa and tendon, which become pinched within the confined shoulder space.

**Temporomandibular joint** dysfunction (TMJ) originates in the muscles around the ear that move the jaw as we chew. Pain extends to the face, mouth, teeth, and head. It is believed to arise from incorrect positioning of jaw components due to injury, or from tension and stress causing repeated clenching of the jaw and tooth-grinding. In some cases, a congenital abnormality may be responsible for the dysfunction. Temporomandibular joint dysfunction can be extremely debilitating. Patients with TMJ dysfunction report clicking and periodic locking of the joint, ringing in the ears, and spasticity and restricted jaw motion, all stemming from pain (American Council for Headache Education, 2011).

**Plantar fasciitis**, an extremely stubborn form of heel pain for which women are most at risk, is most severe upon stepping out of bed first thing in the morning. Damage to the plantar fascia is commonly the result of overuse- the result of standing at work all day on hard surfaces, for instance, or a repetitive motion like jogging (Stanton-Hicks, 2010).

**Vascular pain**

Pain associated with the vascular system occurs in 30 million Americans (Stanton-Hicks 2010). The most common form is peripheral artery disease, which stems from a buildup of fatty deposits and plaque in the arteries of the legs. Exercise, such as walking, causes cramping, tightness in the calf or thigh muscles, and extreme fatigue due to decreased oxygen delivery. If arterial blockage is widespread, the pain also may be present at rest. Typically, the pain is burning, constant, severe, and worse at night when lying down. Claudication is usually related to vascular disease. However pseudoocludication may occur from lumbar spinal stenosis, disk herniation, or osteoporosis. (Mayo Clinic, 2014).

Deep vein thrombosis with thrombophlebitis causes painful swelling. Varicose veins can increase susceptibility to deep vein thrombosis. Other risk factors include hypercoagulable states, cancer, prolonged sitting with prolonged travel, broken hip or leg, and major surgery (Cleveland Clinic, 2014).

**Raynaud’s phenomenon** is caused by the constriction of small blood vessels caused by an exaggerated sympathetic response or to environmental cold. It occurs more frequently in women and affects the hands more often than the feet. Raynaud's disease is caused by poor blood flow causing a blue tinge to the skin, with brief episodes of aching, throbbing, swelling, and tingling. Raynaud's phenomenon is often a sign of connective tissue disorders, such as lupus, scleroderma, or arterial occlusive diseases, and trauma (Stanton-Hicks, 2010).

Pain caused by vascular compromise, like other chronic pain syndromes, requires a multidisciplinary approach that may include cardiology, vascular surgery, smoking cessation assistance, medication management, hypertensive or thrombolytic therapy with associated monitoring, and management of any underlying condition, such as endocrinology for diabetes. Patient and family education includes circulatory care, peripheral sensation management, immobility consequences, nutrition, medication effects and precautions, and fluid management.

LCP considerations specific to vascular pain should address all body systems. **Nursing Diagnoses to Consider:**

- Acute pain
- Risk for impaired tissue integrity
- Risk for vascular trauma
- Ineffective tissue perfusion

**Myofascial pain syndromes**

Myofascial pain syndrome is characterized by trigger points that cause pain and visible twitching in the affected muscle in response to pressure over its fascia. Persistent or spasmodic aching and tightness make sufferers restrict movement, ultimately causing contractures. Myofascial pain can become debilitating because the longer that pain persists in a given muscle or group of muscles, the more likely it is to spread to adjacent muscles in the leg or trunk. Eventually, myofascial pain syndrome can cover fairly large areas of the body (Cleveland Clinic, 2013).

Undiagnosed and untreated myofascial pain can delay recovery from severe injuries. For example, if low back pain from a workplace injury evolves into myofascial pain syndrome, disability can persist for six months or longer. Early recognition of trigger points and prompt treatment are crucial for preventing long-term disability and pain.

Myalgia, musculoskeletal pain, has many causes. Some of the most common are trauma, sports injuries, inflammatory myopathies, viral myositis, polymyalgia rheumatica, neurogenic myalgia, drug-induced myalgia, and fibromyalgia. Other causes include general fatigue, repetitive motion, and inactivity. Symptoms may also include depression, fatigue, and behavioral disturbances (Stanton-Hicks, 2010).

Acute injuries (bone fractures, deep bruising in a limb or trunk, or major nerve injuries) can provoke myofascial pain syndrome. For example, whiplash can affect joints, disks, ligaments, muscles, and nerve roots in the cervical spine and trigger myofascial pain syndrome. Episodic overuse of muscles, such as during weekend athletics and demanding fitness programs that involve repetitive use of certain muscles, can also invite myofascial pain. Subtle repetitive stress injuries can also be implicated.
Additional LCP considerations for myofascial pain may include health education for treatment and recovery, coping, and mood enhancement. **Nursing Diagnoses to Consider:** Impaired home maintenance; Risk for disuse syndrome; Impaired mood regulation.

**Central pain syndromes**

Central pain syndrome (CPS) is caused by damage to or dysfunction of the central nervous system, such as by stroke, multiple sclerosis, brain or spinal cord injuries, tumors, epilepsy, or Parkinson’s disease. Symptom effects and distribution vary greatly.

Central pain, usually chronic, is described as a burning sensation accompanied by tingling, pressure, and shooting or aching pain. Feelings of numbness may alternate with brief bursts of sharp pain. Central pain may begin at any time after CVA, and is intensified by touch, movement, emotions, and cold. SCI may produce steady, severe, and burning or sharp and shooting pain. Hypersensitivity of the skin in affected areas occurs in tandem with sensations that patients describe as a “background burning.” Pain arising in the brain is even more unbearable than pain arising in the spinal cord because it is steady and unremitting.

**Complex regional pain syndrome (CRPS)** was first described in injured soldiers during the American Civil War by the neurologist Dr. Silas Weir Mitchell, who noted intense pain, wide temperature variations, skin color changes, and swelling along with an exaggerated response to touch. This exaggerated pain response is best described as a vulnerability to pain such that simple air movement or a light touch can prompt deep, intense, burning pain. The brain interprets everything as pain.

Complex regional pain syndrome commonly develops in the limbs, but may appear in any area of the body, including internal organs. Extremity pain may spread to another extremity and eventually may involve all four extremities at once. Because of severe pain and loss of function, patients may become entirely unable to use their extremities (Stanton-Hicks, 2010).

Most patients are in their late 30s or early 50, usually having experienced some kind of physical trauma. The affect is devastating: Unable to work, many patients become severely withdrawn or depressed when they learn their condition is permanent. Preexisting psychological factors do not predispose patients to CRPS. Most studies have proved that any psychological changes occur as a result, not a cause, of the condition (Stanton-Hicks, 2010).

Phantom pain after amputation of a body part severely tries the psychological and physical endurance of the patient as well as the therapeutic skills of the treating team. Most phantom pain develops in the area of the body where the amputation took place. Patients describe it as burning, cramping, aching, bothersome, crushing, or pulling. Symptoms typically last for at least 10 years, but occasionally may diminish within one year.

The clinical means of reducing the symptoms remain poor or experimental. As with many other neuropathic pain disorders, neural systems in the central nervous system become sensitized to chronic pain impulses, and ultimately, develop new pain generators that accurately reproduce pain that would ordinarily be felt in the amputated body part. The intensity of phantom pain varies from patient to patient. Some experience it as a mere annoyance, while in other patients it disrupts sleep, interferes with work, and produces a profound effect on the psyche.

Other LCP considerations for central pain syndromes may include self-care assistance and retraining via PT and OT for body mechanics, promotion, energy management, stretching, balance, and joint mobility, amputation care, prosthesis care, and body image enhancement. **Nursing Diagnoses to Consider:** Disturbed personal identity; Hopelessness; Ineffective role performance; Disturbed body image.

Life care plan considerations for patients whose diagnosis falls under one of these conditions can include but certainly are not limited to those mentioned above. The life care plan should adequately address physical, psychological, pharmacological, and therapeutic components of chronic pain.
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In life care planning we address care needs across the life span. Because chronic pain is a complex medical issue that may change over a person’s life, the nurse life care planner (NLCP) should consider medical and nursing diagnoses, the injured person’s response to treatment, coping mechanisms, current treatment modalities, aging aspects of the injury as it relates to chronic pain and other factors that may impact quality of life. The goal is to improve functional ability and quality of life while preventing complications.

The nurse gathers data by reviewing the medical records, and interviewing the injured person and their support system. As we know critical thinking begins with data collection/assessment. (Table 1)

While most injured persons do not seek drugs, one should keep in mind any history of drug seeking behavior, alcohol abuse and any history of problems with law enforcement associated with drug use.

The NLCP will generally consult with the treating medical provider as part of the collaborative process, to share the nursing assessment findings and learn about treatment process, progress, and goals. (Table 2)

In the United States, chronic pain is most often treated with medication. The long-term medical plan of care may be prescribed by a specialist in pain management, physiatrist, anesthesiologist, neurologist, or at times the patient’s primary care (physician or nurse practitioner). The life care plan should also include periodic monitoring (e.g., laboratory, physical therapy, psychological) required to ensure ongoing safe effective treatment planning and delivery.
TABLE 1. PATIENT INTERVIEW DATA

<table>
<thead>
<tr>
<th>Patient's perception of pain</th>
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<td>Patient's ideas about how pain affects function</td>
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<td>Patient's perception of what helps</td>
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<td>Patient's understanding of medications, side effects</td>
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<tr>
<td>Are medications/treatments controlling symptoms?</td>
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<td>Patient's adherence to plan of care; potential obstacles to adherence</td>
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<tr>
<td>Goals: Pain-free? Able to function with some pain? Able to self-manage flare-ups?</td>
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<tr>
<td>Activities: friends, family, work, recreation</td>
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<td>Past interventions and results: behavioral counseling, functional restoration program, modalities, other</td>
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TABLE 2. PROVIDER INTERVIEW DATA

<table>
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<th>Goals for treatment</th>
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<td>Additional or alternative modalities considered</td>
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<tr>
<td>Laboratory studies for metabolic issues/ complications; frequency; past results, trends</td>
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<td>Current, possible, or potential side effects of medications or treatments</td>
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<tr>
<td>Treatment needed or in place for side effects</td>
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<td>Need to increase treatment for side effects</td>
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<tr>
<td>Long-term implications for treatment when planning future medical care</td>
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<td>Driving safety, general safety issues</td>
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is a founding principal and the Chairperson of ANS Solutions. She has provided medical expertise within the insurance industry for over 30 years, developing and standardizing national catastrophic care programs to maximize positive results. With ANS Solutions, her efforts focus on product development and getting her national staff the most up-to-date medical information to help solve claims-related issues. She is a recognized expert in complex medical management and insurance litigation, and is past president of the American Association of Nurse Life Care Planners (AANLCP) 2012. - See more at: http://ans-solutions.com/about-ans-solution/meet-the-team/#sthash.12xcnj1N.dpuf
A CHILD IN PAIN

KELLY K. CAMPBELL, RN, BSN, CP, CLCN, CLCP
MICHAEL STANTON-HICKS, MD

Overview
Pain management is alleviation of pain or reduction in pain to a level of comfort that is acceptable to the patient (Johnson, Moorehead, Bulechek, Butcher, Maas, & Swanson, 2012). Pain has many causes that can produce physical and psychological symptoms. Most importantly, pain is an abstract condition that can only be determined and defined by the sufferer. This complicates pediatric pain management because children and adolescents vary in their ability to describe their pain. Achieving pain management and improved quality of life involves a multidisciplinary approach to address their medical, psychological, social, environmental, and future occupational need for both the short and long term.

Children are more compliant and respond better to behavioral measures and physical modalities than adults. Children’s pain will often respond to weak analgesics, antifibrinolics, anticonvulsants, and antidepressants (Stanton-Hicks, 2010). Integrated programs of rehabilitation that include biofeedback, physical therapy, swimming, music therapy, and concurrent schooling are most effective for treating children’s pain. (Jenson & Yaldoo, 2000; Stanton-Hicks, 2010). An adequate life care plan for a child in pain will provide a program that will:

- Identify and treat unresolved medical issues
- Improve aerobic conditioning, endurance, strength, and flexibility

TABLE 2. PROVIDER INTERVIEW DATA

Goals for treatment
Additional or alternative modalities considered
Laboratory studies for metabolic issues/complications; frequency; past results, trends
Current, possible, or potential side effects of medications or treatments
Treatment needed or in place for side effects
Need to increase treatment for side effects
Long-term implications for treatment when planning future medical care
Driving safety, general safety issues
Eliminate excessive guarding behaviors that interfere with normal activities

Improve coping skills and psychological well-being

Alleviate depression

Assess patient resources and identify recreational opportunities

Educate patients and family about pain, anatomy, physiology, and psychology, and teach them how to distinguish between hurt and harm

Educate parents about prudent use of health-care resources

Assist patients and families in establishing goals and maintaining treatment gains

**Multidisciplinary team**

Physician or ANP pain specialists can prescribe analgesics and or medical regimen that show promise. After medical management, physical therapy is one of the first steps toward managing chronic pain. Physical therapists provide office-based or aquatherapy exercises to improve range of motion, strength, flexibility, endurance, and better awareness of body mechanics.

Chronic pain may be a lifelong condition, so the life care plan should provide resources for patient/family coping skills and behavioral management. The psychologist can offer behavioral therapy to tackle underlying depression and psychiatrists may prescribe antidepressants that help to reestablish effective sleep patterns. The child's pediatrician and any other specialist physician that is familiar with patient's condition. The nurse case manager coordinates care to prevent delays or gaps in care, and the social worker addresses insurance, transportation, community resources, and other issues.

Occupational therapists improve a patient's capacity for self-care, chores and leisure activities. Becoming more independent and engaging in hobbies help people in pain, not just children, feel more productive and engaged.

**Focus on psychological aspects**

The International Association for Study of Pain (IASP) has started to call attention to the worldwide undertreatment of acute and chronic pain in the young. While data on chronic pain in children are sparse, we know that chronic pain affects a child's family relationships, school attendance, and participation in extracurricular activities, along with friendships and ability to fulfill responsibilities at home. Children in chronic pain easily fall prey to feelings of sadness, anxiety, isolation, frustration, and anger. This takes a heavy toll on parents, who struggle to cope with their child's condition, and on the child's siblings.

Knowledge is power. Because a child's pain so completely alters family dynamics and will have a profound impact on the child's future, the pediatric psychologist plays an indispensable role on the pain-care team. Many psychological pitfalls affect a child's journey through chronic pain. Though parents are often reluctant to seek the help of mental-health professional for fear of stigmatizing their children, an understanding of the pain experience and its natural effects on children and teens can be empowering.

A common stereotype holds that children complain about pain to gain attention. However, children rarely exaggerate their pain. When behavioral and cognitive therapy is recommended for children and adolescents, no one disputes the reality of their pain. Instead, the pain-management team hopes that the use of cognitive and behavioral techniques can alter or lessen the pain experience. The idea is to help children function at their best by decreasing the affect that stress, anxiety, and depression play in increasing pain. For example, a pediatric psychologist will acknowledge the physiologic or organic causes of chronic headaches, and will assist in determining whether psychological, environmental, sociological, or stress-related factors increase their severity or frequency.

Pediatric psychologists are also effective countering learned pain behaviors. Children can learn pain behaviors just as adults do when they have pain for a long period. Children learn to anticipate pain that has persisted for a long time. Some children worry that they will never get better and they cannot envision a pain-free future. A child's anxiety is unsurprising when everyone around him shows constant concern.

Repeatedly asking children how they feel, for example, can frighten them by making them focus on their pain. In addition, parents can inadvertently perpetuate a child's symptoms if the child grows accustomed to receiving special treatment. When pain episodes cause children to stay home from school and avoid chores, parents may try to cheer them by allowing them to watch television or play video games, inadvertently reinforcing pain behaviors as children grow reluctant to give up these privileges.

Parents should fully support their child's participation in cognitive and behavioral therapy, and participate themselves when asked. When pain develops, they can gently encourage their child to employ positive self-talk, relaxation techniques, and other techniques to alleviate symptoms. If children can't go to school, parents should have them rest quietly in bed as they would with any other illness, rather than allow them unrestricted access to the computer and television.

It's healthier for children to attend school, take part in extracurricular activities and enjoy their friendships as much as possible. It's also important to expect children to keep up with chores. This sends a positive signal that parents see their child as strong enough to manage the pain. When a child withdraws from friends during severe pain episodes, parents can step in and suggest activities that
they can pursue together that will engage the child and divert attention from the pain.

**Measuring pain**

Measuring how much pain a patient feels is critical to determining how well a pain-management technique is working. Evaluating the child in pain with a low key approach to determine how much pain a child feels is always best, but assessing pain in children can be difficult, particularly in younger children. Children do not display the same physical signs of pain as adults might, such as elevated blood pressure or heart rate. So diagnosing a child’s pain becomes more a matter of reading signs than anything else (Stanton-Hicks, 2010).

Age and temperament affect the type of pain a child experiences and its intensity. Because children and adolescents vary in their ability to express their pain, pain specialists use different measures to assess them.

In younger children, the FACES pain scale (Figure 1) is used to rate pain levels. The simply drawn faces on the chart, ranging in expression from happy to sad, correspond to different levels of pain.

Older children are able to report their level of pain. However, psychological factors can intervene. Pain tends to be less overwhelming for an easygoing child, while a child who is clingy or a worrier may experience more pain. Recurrent stomachaches are typically seen in children with true anxiety disorders or situational anxiety. For example, an adolescent with sickle-cell anemia may develop anticipatory anxiety due to a past pain crisis, and worry that the oncoming pain will be just as severe. The anxiety may make the teen rate his or her current pain as 10 on the pain scale, when in reality it is more likely an 8. It’s hard to independently tease apart the difference in these cases.

For psychologists, pain measurement scales help track the efficacy of tools such as positive self-talk, deep breathing, progressive muscle relaxation, and guided imagery. Following are common indicators that a child is experiencing pain: (Stanton-Hicks, 2010)

- **Infants** An infant in pain will cry and cannot be soothed by feeding, changing or being held.

- **Toddlers** Often a toddler’s pain masquerades as fussiness or irritability. A Cleveland Clinic pediatric psychologist notes, “Their vocabulary is limited, and this inability to verbalize can frustrate them. While lab findings are being assessed, we can ask toddlers in a concrete way if something is feeling ‘yucky’ or ‘achy’ without planting the idea in their minds.”

- **Preschoolers** Because of their naturally happy and curious
natures, preschoolers in pain are particularly hard to read. In fact, their pain experience may be less than that of an older child who has the same organic cause of pain.

- **School-aged children** Children of school age are much more able to talk about their pain. Vague somatic complaints, along the lines of ‘something just doesn’t feel right,’ are typical of middle school-age children. Recurrent headaches, both tension and migraine, are the most common pain problem in older adolescents. They tend to develop in high achievers who take academics seriously, set high standards for themselves and others, and don’t cope well with situations or individuals who don’t meet those expectations.

Despite best efforts to make children comfortable, pain cannot always be fully controlled. Yet children can be full of life and energy despite their pain, says one physician. “They teach us so many lessons about how to live.”

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**REFERENCES**

American Chronic Pain Association. (nd) [www.theacpa.org](http://www.theacpa.org)


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- ICD - 10 when applicable
- Search by code or description
- Choose description length for codes
- Templates can be customized
- Dataflow between LCP, MSA, MCP
- Customize templates by injury for future files
- Set page breaks or change page orientation
- Customize Narrative headings or use default
- Create “options” in LCP, MSA or MCP
- Upload files into template
- Submitter cover letter for MSA
- Calculates “Seed” money
- MSA template for WC and Liability files
- Limited use “User” available for certain sections
- LCP Narrative Section
- LCP Tables Section
- Customize Cover Pages

- Customize Company Logo or Customer Logo
- Footer information
- Admin. section to assign users
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- Calculates life expectancy
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- Calculates tables
- Customize table headings
- Create custom text tables
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OPIOID USE IN THE ELDERLY

TIM R. COVINGTON, M.S., PHARM.D., DANE A. HIGGINS, M.B.A., PHARM.D.

Introduction

Advances in drug therapy over the past 50 years have been remarkable. Drug therapy management has much room for improvement, however. This is particularly true in the elderly (65 years and older) population, for a variety of reasons.

There are many drug-related system failures in U.S. health care, some magnified in the elderly population. The complexity of pain management and the central place of opioids in managing pain, particularly chronic pain, requires the highest level of knowledge of pharmacotherapy to integrate and apply therapy safely and effectively.

Consider the following U.S. public health statistics regarding opioid use.

- 259 million prescriptions were written for opioid narcotics in 2012.
- 46 deaths per day (17,000 deaths per year) are directly attributed to prescribed opioid narcotics. Fatal narcotic overdoses have quadrupled over the last 15 years.
- The risk of opioid narcotic overdose is 9 times (900%) higher at morphine equivalent doses (MED) over 100 mg/day v. MED less than 20 mg/day.

Clinical considerations

Elders, projected to be 20% of the total U.S. population by 2030, have
physiological changes that can significantly affect drug absorption, distribution, metabolism, and elimination. The Food and Drug Administration (FDA) requires the package prescription drug labeling to address administration and dosage differences in special considerations such as age, hepatorenal function, comorbidity, concurrent drug therapy, pregnancy, lactation, and other factors.

The effects of aging on cardiovascular, hepatorenal, skin, gastrointestinal, metabolic, musculoskeletal, and central nervous systems can make safe and effective pain management with opioids even more challenging.

Adverse reactions to opioids to expect include:

- Hormonal dysfunction
- Sexual dysfunction
- Immunosuppression
- Hyperalgesia
- Excessive sedation
- Dizziness
- Disorientation
- Confusion and other cognitive deficiencies
- Impaired movement/coordination
- Falls
- Fractures
- Constipation
- Nausea, vomiting
- Impaired overall quality of life

Approximately 30% of elderly patients admitted to a hospital are admitted due to drug-related problems. A 1997 study found that 35% of elderly patients in an ambulatory care setting experienced one or more adverse drug reactions, and 29% required additional medical care to manage them.

The drug-drug synergy potential of opioids with other frequently prescribed CNS depressants (e.g., muscle relaxants, anxiolytics, antidepressants, sleep aids/hypnotics, drugs to manage neuropathic pain) is a major safety consideration.

Severity can be dose-related and unpredictable due to individual biological variability between patients. The risk can be extreme. Patients should be encouraged to report any adverse of unusual symptom(s) when taking one or more prescribed drugs.

Efforts to reduce adverse event risk from combined CNS depressant drug use can best be accomplished by reducing and discontinuing unnecessary or duplicate medications whenever and wherever possible. Virtually all adverse effects are dose-related. Always use the lowest effective dose possible.

**Examples**

**Opana ER®**

FDA-approved labeling for Opana ER® (oxymorphone ER) states the following: “The steady-state plasma concentrations of oxymorphone are approximately 40% higher in elderly subjects that in younger subjects. Life-threatening respiratory depression is more likely to occur in elderly, cachectic or debilitated patients as they may have altered pharmacokinetics and drug clearance compared to younger, healthier patients. Such patients should be monitored closely, particularly when initiating or adjusting the Opana ER® dosage or administering Opana ER® with other drugs that can interfere with normal breathing.”

**Duragesic® (fentanyl) Patch**

Older patients have been found to be up to twice as sensitive as younger patients to fentanyl. FDA-approved package labeling notes that in one study of fentanyl patch use in older adults, the mean half-life of fentanyl was 34.4 hours in older adults compared to 23.5 hours in younger adults. When initiating fentanyl patch use in the elderly, the lower strength (12 mcg/hr, 25 mcg/hr) patch should be used. Elderly patients on high-dose fentanyl patches (50 mcg/hr, 75 mcg/hr or higher) generally benefit from fentanyl patch weaning to a lower strength.

**Neurontin® (gabapentin)**

Gabapentin is widely used in neuropathic pain management and primarily excreted from the body via the kidneys, so dosing must be adjusted based on renal function. FDA dosing recommendations based on renal function are presented in Table 1.

**Lyrica® (pregabalin)**

Dosage guidance for Lyrica® is often ignored or minimized by those prescribing for the elderly. The maximum recommended daily dose of Lyrica® is a patient with a CrCl of 30 to 60 ml/min. is 300 mg/day (150 mg twice daily). With normal renal function the maximum daily dose is 600 mg/day.

**Respiratory Function and Opioids**

Opiates should be used cautiously, if at all, and dosed carefully in patients with preexisting respiratory depression caused by chronic obstructive pulmonary disease (COPD), cor pulmonale, decreased respiratory reserve (e.g., neuromuscular weakness), hypoxia, or hypercarbia. In severe respiratory disease, even usual therapeutic doses of opioid narcotics can decrease respiratory drive to the point of apnea.

**Ambien® (zolpidem)**

Zolpidem is widely used as a sleep-aid. Strengths of available products include a 12.5 mg controlled-release (CR) formulation and a 5 mg and 10 mg tablet. For women and geriatric patients the recommended dose is 5 mg, but the 10 mg and 12.5 mg formulations are generally prescribed. Zolpidem is a benzodiazepine receptor agonist and can cause adverse effects similar to benzodiazepines (e.g., Valium®, Xanax®, Klonopin®) in older adults, including residual daytime sedation, mental confusion, delirium, falls and fractures. As a CNS depressant, zolpidem interacts adversely with a variety of other depressant drugs (e.g., opioid narcotics, antidepressants, muscle relaxants). The Beers Criteria® consider chronic use of zolpidem to be a high-risk medication practice.

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1. The Beers Criteria represents a consensus created by nationally recognized experts in geriatric care, clinical pharmacology and psychopharmacology. This expert panel is guided by two general purposes: (1) identify medications that should normally be avoided in patients 65 years of age and older due to a lack of efficacy, an unnecessarily high risk, or availability of a safer alternative and (2) identify medications that should not be used in elderly patients with a specific medical condition.
Other pertinent considerations
Opioid management can be complicated by numerous other factors. Some of these factors are more pronounced and prevalent in the elderly, particularly frail, cognitively-impaired, self-medicating elderly. Consider the following:

- **Lack of a prescriber/patient opioid contract for chronic use.** Clear treatment goals should be incorporated into a treatment plan. Pain scores should be determined regularly. If treatment goals are not achieved, treatment modalities should be critically reevaluated. Random drug screens should occur at a frequency of one to two times per year, or more often if needed.

- **Lack of a rational, individualized plan of care.** Many patients receive prescriptions from multiple physicians. It is very important that each clinician be aware of all prescribed medication and be in touch with all other professional prescribers.

- **Failure to adhere to national pain management guidelines.** National pain management guidelines have been published by the American...
Polypharmacy. Elderly, disabled patients are often prescribed 5, 7, 10 or more injury-related prescription drugs by multiple prescribers. With advancing age, non-injury-related comorbidities (e.g., diabetes, hypertension, dyslipidemia, heart failure, COPD, depression, sleep disorder, obesity, cancer) are more likely to develop. This may result in the addition of several more prescriptions. Additional confounders of drug therapy management can be unreported use of over-the-counter (OTC) drugs, nutritional supplements, alcohol consumption, smoking, and other adverse lifestyle factors.

Prescribing of high-risk medications along with opioid narcotics. Many prescribed drugs employed in the elderly, disabled population are particularly high risk in the elderly. The Beers Criteria identify these high-risk medications. Among them are drugs with anticholinergic properties, antiarrhythmic agents, tricyclic antidepressants, antipsychotics, barbiturates, benzodiazepines, hypnotics, and many more. Combined with opioids, many have the potential to produce serious adverse effects.

Failure to establish a proper dose of opioid(s) in the elderly. A cardinal dosing rule in the elderly is to “start low, go slow.” Drug therapy in the elderly should be started at the lowest potentially effective dose. Adequate time should be allowed to evaluate the response. If necessary, the dose can be slowly titrated up (or down) to the optimal daily dose. High-dose opioid therapy is becoming an increasingly serious safety issue.

Failure to assess critical organ function. If an elderly patient has any hepatic or renal impairment, consult package labeling for dosage guidance. Hepatic and renal function should be checked before prescribing and monitored every three months.

Failure to adjust drug dosage one drug at a time. It is very difficult to assess the safety or efficacy impact of a dosage adjustment on a single drug when two are more drugs are adjusted concurrently.

Failure to monitor patients closely for drug-drug interactions, adverse drug reactions, therapeutic effect. Many therapeutic misadventures occur because patients and/or health care providers are not paying attention. Adverse consequences of drug therapy may not manifest themselves immediately. Periodic drug therapy monitoring is crucial.

Conclusion
Drug therapy management is complex. Most clinicians focus on drug effectiveness, but safety is equally important. Pouring 3, 5, 7, 10 or more prescription and/or OTC drugs or nutritional supplements into the “human test tube” can create serious adverse consequences for a patient under the best of circumstances. Comorbidity adds many additional considerations, as do significant age-related biological changes that influence responses to drugs. Sophisticated expertise in pharmacotherapy is particularly necessary in caring for the elderly.
Adherence to national guidelines in pain management is foundational. With complex regimens requiring high levels of integration of knowledge, the advice and counsel of a qualified consultant is strongly encouraged.

The authors are pharmacists involved in the drug utilization review process in worker’s compensation, and are neither prescribers or managers of opioid use in the elderly.

### Table 1. Gabapentin Dosage for Adults and Children 12 Years and Older Based on Renal Function.


<table>
<thead>
<tr>
<th>CrCl</th>
<th>Total daily dose range</th>
<th>Dose regimen</th>
</tr>
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<tbody>
<tr>
<td>≥ 60 mL/min</td>
<td>900 to 3600 mg/day</td>
<td>300 mg 3 times daily</td>
</tr>
<tr>
<td>&gt; 30 to 59 mL/min</td>
<td>400 to 1400 mg/day</td>
<td>200 mg twice daily</td>
</tr>
<tr>
<td>&gt; 15 to 29 mL/min</td>
<td>200 to 700 mg/day</td>
<td>200 mg once day</td>
</tr>
<tr>
<td>15 mL/min*</td>
<td>100 to 300 mg/day</td>
<td>100 mg once daily</td>
</tr>
</tbody>
</table>

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### FOOTNOTES


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DEEP BRAIN STIMULATION:
AN OFF-LABEL SURGICAL THERAPY FOR REFRACTORY CHRONIC PAIN

LAURA SPERRY MSN RN ANP-C,
LIN ZHANG MD PhD, KIA SHAHLAIE

KEY WORDS:
deep brain stimulation, DBS, chronic pain, surgery, complications, PAG, PVG, VPL/VPM, ACC

Abstract
Deep brain stimulation (DBS) may provide an alternative therapy for chronic pain in patients who have failed pharmaceutical and more conservative therapies. This paper is intended to build upon the introductions to DBS in the management of movement disorders as well as its future applications published in the Summer 2012 and Spring 2014 JNLCP and to discuss the need for further research on DBS managing chronic pain syndromes. Readers are expected to understand the patient selection process, procedure and risks and complications. The efficacy of DBS in pain management is summarized and the rationale behind the lack of availability and need for further research is discussed.

According to the 2008 Medical Expenditure Panel Survey, chronic pain affects approximately 100 million adults in the United States and the impact on function and quality of life can be significant. Based on this data, the total financial cost of pain to society, combining health care costs and productivity estimates, ranged from $560-635 billion per year; greater than the annual costs of heart disease, cancer and diabetes (Institute of Medicine Committee on Advancing Pain Research, Care, and Education, 2011). Pain is often complex in nature, requiring multiple modalities, including pharmaceutical, physiotherapeutic and invasive therapies to target the symptoms. For example, patients with failed back surgery syndrome (FBSS) have combined lower back pain and radicular pain. Because spinal cord stimulation (SCS) only relieves the radicular aspect of pain and intrathecal opioids are better for the low-back aspect of pain, these patients traditionally would be treated with both SCS and intrathecal opioids (Rasche, Rinaldi, Young, & Tronnier, 2006). While most cases of chronic pain can be treated medically, about 10% of patients are refractory to these therapies (NHS England Specialised Commissioning Team, 2015, July). For those who fail pharmaceutical and more conservative therapies, deep brain stimulation (DBS) may provide some relief from their chronic discomfort.

DBS is a neurosurgical procedure that implants a brain pacemaker device to deliver electrical stimulation to specific targets in the brain. Leads are placed in specific areas of the brain according to the symptoms involved (Figure 1). DBS is widely used in movement disorders but has also shown effectiveness in epilepsy, obsessive compulsive disorders, cluster headache, and Tourette’s syndrome (Boccard, Pereir, & Aziz, 2015).

Patient Selection and Procedure
A detailed description of DBS patient selection and procedure was discussed in the Summer 2012 issue of the Journal of Nurse Life Care Planning (Zhang, Sperry, & Shahlaie). According to Pereira, Green, & Aziz (2013), there are two challenges in identifying appropriate surgical candidates: first, the pain must be characterized as neuropathic and not factitious or psychogenic in origin and second, the team must identify which patients with neuropathic pain will likely benefit from DBS. Due to the challenging nature of these decisions, it is essential that the DBS team consists of a pain specialist, a neurosurgeon and a neuropsychologist. The symptoms such as hyperalgesia, allodynia, and hyperpathia appear more important than the specific etiology of chronic pain in determining potential benefit.
DBS for chronic pain should only be considered once a patient has tried and failed, or at least reasonably considered, all other conventional therapies (NHS England Specialised Services Clinical Reference Group for Specialised Pain, n.d.). The NHS England lists involvement in ongoing litigation or compensation claims as an additional exclusion criteria based on data that shows that this situation negatively impacts response to pain treatments. They require these situations to be resolved before a patient proceeds with any neuromodulation therapy including DBS.

While the general selection process and procedure are similar whether DBS is being used to treat a movement disorder or a pain syndrome, the target of the stimulation field is unique. Leads are typically implanted into the periaqueductal gray (PAG)/periventricular gray (PVG) matter for nociceptive pain and the ventroposterolateral/ventroposteromedial (VPL/VPM) sensory thalamus for neuropathic pain (Levy, Deer, & Henderson, 2010). The PAG is located in the midbrain and is the primary control center for descending modulation of pain causing release of endogenous opioid neurotransmitters that signal to the spinal cord and dampen incoming pain messages. The PVG matter is located in the thalamus and upper midbrain. The VPL and VPM are relay nuclei in the thalamus that are a part of the somatosensory system and work through non-opioid mechanisms offering relief in central pain (Rasche et al., 2006; Pereira et al., 2013; Boccard et al., 2015). As many people have combined pain syndromes with both neuropathic and nociceptive components, surgeons will often implant both the PAG/PVG and sensory thalamus simultaneously (Levy et al., 2010). The anterior cingulate cortex is a newer target that targets the affective component of pain and targets hemi- or whole-body post-stroke pain (Periera et al., 2013; Boccard et al., 2014; Boccard et al., 2015) (Figure 2, Table 1). More recently, the Cleveland Clinic completed a prospective, randomized, double-blind, controlled trial of DBS for thalamic pain syndrome targeting the ventral striatum/anterior limb of the internal capsule, a new target which impacts the emotional and affective components of pain.

They are currently looking for funding to expand this into a larger, long-term, multicenter study (Machado, 2015) (Table 2).

Different from the procedure for DBS in movement disorders, many programs will leave the leads externalized for at least a week after the initial implantation to determine efficacy. If the patient obtains adequate pain relief, the leads are then permanently implanted and the DBS is programmed to optimized settings (Pereira et al., 2013).

**Risks and Complications**

As previously reviewed by Zhang et al., (2012), while DBS is supposed to be minimally invasive and non-ablative, it is associated with several concerning complications, some of which are irreversible. Rates of complications are quite variable from site to site (Bronstein et al., 2011). Patient selection, surgical methods and surgical team experience are critical components in minimizing these risks (Hariz, 2002).

Accurate stereotactic radiological studies and intraoperative physiologic corroboration of the target site(s) are critical pieces that help limit the number of necessary exploratory tracks and limit surgical time, thus, reducing hemorrhage and device-related infection risk (Hariz, 2002). Symptomatic hemorrhage risk is 1.5-3% per lead implant. The risk of a hemorrhage resulting in permanent morbidity is 0.5-1.0% per lead (Marks, 2011). Serious infection related to the device insertion is approximately 10% per device (Weaver et al. 2009). Transient headache occurred in over 50% of cases but most of these resolve by the time of discharge. PAV/PVG stimulation can cause transient side effects including diplopia (14.2%), nausea (10.6%), vertical gaze palsies (9.9%), blurred vision (9.2%), horizontal nystagmus (4.3%), and persistent oscillopsia (3.5%) (Levy et al., 2010). Device-related complications including infection, skin erosion (1-2.5%), electrode migration (0.19%), electrode fracture (0.15%) and hardware failure may occur at any time following the device insertion (Hariz, 2002; Bronstein et al., 2011).

Finally, even when DBS is truly efficacious, tolerance may manifest after several years. Adjustments in stimulation settings or periodic interruption of stimulation can be effective means of addressing this issue. Newer advances in technology, such as so-called smart adaptive stimulation, may further assist patients in better controlling their pain.

**Figure 2.** There are several neurosurgical stimulation therapies available to treat intractable pain. This image shows the various targets. In particular, DBS targets the sensory thalamus (Th) (VPL/VPM), periventricular grey matter (PVG), periaqueductal grey matter (PAG), and the anterior cingulate cortex (ACC). Reprinted by permission from Macmillan Publishers Ltd: Hosomi, K, Seymour, B, & Saitoh, Y. (2015, April). Modulating the pain network—neurostimulation for central poststroke pain. Nature Reviews Neurology, 11, 290–299. Published online 21 April 2015; doi:10.1038/nrneurol.2015.58.
and reducing tolerance to stimulation (Boccard et al., 2015; Pereira et al., 2013). Another challenge is that improvement in one type of pain may unmask other bothersome types or regions of pain to which the individual was not previously focused, such as treatment of burning hyperesthesia may unmask muscular allodynia (Periera et al., 2013).

Access Challenges

Using neurostimulation to target intractable pain first appeared in the 1950s (Boccard et al., 2015; Heath, 1954; Pool, 1954). By the mid-1970s, DBS for pain was determined to be safe and effective. However, due to legislative changes, the FDA shortly thereafter requested the 3 existing manufacturers to conduct comprehensive safety and efficacy trials on DBS and chronic pain. Only one company complied with this request and its studies showed only limited efficacy. As a result, the FDA rescinded the approval for DBS and pain and it is still considered an "off label" use, limiting reimbursement by insurers and its availability (Boccard et al., 2015; Pereira et al., 2013; Levy et al., 2010).

Currently, only a small handful of academic hospitals in the U.S. offer DBS as an off-label therapy for chronic pain. While most U.S. payers consider this use experimental and investigational, some do have a provision for covering it in specific cases (Health Net, 2015). Coding and reimbursement data for DBS and chronic pain is not easily found but the cost is likely similar to DBS for movement disorders. The National Parkinson Foundation estimates a DBS surgery to cost between $35,000-$50,000 per side (Okun & Zeilman, n.d.). Without third party coverage, this procedure becomes cost prohibitive for most.

While DBS for pain is not readily available in the U.S., the European Federation of Neurological Societies and the United Kingdom National Institute for Health and Clinical Excellence (NICE) have previously approved DBS for refractory chronic pain syndromes (Boccard et al., 2015; NICE, 2011). A preliminary draft of the 2015 NHS England commissioning report for DBS and chronic pain initially recommended continued commissioning of DBS for chronic pain at specified centers (n.d.). Unfortunately, based on the lack of additional economic data since the 2011 NICE publication, the NHS England ultimately declined routine commissioning of this procedure for chronic pain (2015, July).

Efficacy

It is difficult to conduct a comparative analysis of DBS versus other treatments in treating chronic pain because of the highly varied pathologies. Rasche et al. (2006) found that most of the published reports on DBS and chronic pain were level V, historic case-control studies. Few studies used an independent examiner for evaluation of results and there were no standardized patient selection or evaluation criteria in the published studies. Blinded stimulation had not been done and a pharmaceutical dose-response relationship had not been examined. Rasche et al. (2006) thus performed a double-blind study on 56 patients with various neuropathic and mixed nociceptive/neuropathic pain syndromes where they implanted DBS leads into the somatosensory thalamus or the PVG and VPL was superior to single-lead stimulation.

Recent publications suggest that DBS can be effective for phantom limb pain, brachial plexus injury, central post-stroke pain, reflex sympathetic dystrophy, complex regional pain syndrome, face pain, spinal injuries, failed back surgery syndrome, occipital neuralgia and cluster headaches and migraines (Boccard et al., 2015). Fontaine et al. (2009) did not find that DBS improved chronic cluster headache compared to sham stimulation but they question that their study design may have impacted their findings and recommended further evaluation (Table 2). Targeting the sensory pathways seems to be less effective in treating thalamic pain syndromes and paraplegia pain, leading researchers to consider affective targets (Machado, 2015; Levy et al., 2010; Rasche et al., 2006).

In a recent review, Boccard et al. (2015) discussed the limitation of several of the larger public studies on DBS and pain. Lack of randomization and case controls, poor enrollment and loss to follow-up, and heterogeneity in efficacy studies possibly due to variance in study designs and pain etiologies resulted in significant limitations in this

### Table 1: Types of pain. (IASP, 2014, October 6; Boccard et al., 2015; Pereira et al., 2013)

<table>
<thead>
<tr>
<th>Types of Pain</th>
<th>Description</th>
<th>Surgical Target</th>
</tr>
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<tbody>
<tr>
<td>Nociceptive Pain</td>
<td>Pain that occurs due to actual damage to the non-neural tissue. The somatosensory nervous system is functioning normally</td>
<td>PAG/ PVG</td>
</tr>
<tr>
<td>Neuropathic Pain</td>
<td>Pain that occurs due to actual nerve damage. There may be a lesion or disease of the somatosensory nervous system</td>
<td>VPL/ VPM</td>
</tr>
<tr>
<td>Affective Component of pain</td>
<td>This addresses the individual's perception of pain rather than the sensory components.</td>
<td>ACC</td>
</tr>
</tbody>
</table>
data. In addition, there are few studies that compared neurosurgical options for treating refractory pain syndromes, leaving questions as to the comparative effectiveness of these options. There are currently two clinical studies listed on www.clinicaltrials.gov addressing DBS and pain that are actively recruiting (Table 2).

**Conclusion**

In conclusion, DBS for pain has been shown to be effective in several patient series. However, additional clinical trials are required to more robustly demonstrate the efficacy of DBS to treat intractable chronic pain and regain FDA approval. The NHS England recommends additional trials to 1) confirm the outcome findings that currently are only published via cohort studies and case-series; 2) to address concerns about tolerance and attrition rate in the long-term studies; and 3) to identify predictors of long-term efficacy (NHS England Specialised Services Clinical Reference Group for Specialised Pain, n.d.). In order for third-party payers to fund this procedure, further research is necessary to prove the cost benefit. While the subset of patients who would ultimately qualify for this procedure is relatively small, the impact of their chronic pain on their quality of life, healthcare costs, and society is significant and mandates further exploration of neuromodulation, in particular DBS, as a therapeutic option. [results?term=deep+brain+stimulation+pain&pg=1].

### Table 2: Current studies on DBS and chronic pain (U.S. National Institutes of Health (n.d.)

<table>
<thead>
<tr>
<th>Study Title</th>
<th>Status</th>
<th>Start Date</th>
<th>Completion Date</th>
<th>Study Design</th>
<th>Sponsors &amp; Collaborators</th>
</tr>
</thead>
</table>
LAURA SPERRY, MSN, ANP-C
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REFERENCES


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Recent US data suggest that chronic pain affects approximately 100 million adults; health care expenses attributable to pain now exceed those of heart disease, cancer, and diabetes (Gaskin & Richard, 2012). Individual costs extend beyond the economic into the psychological, social, and physical domains. Traditional biomedical approaches did not adequately address nonphysiological determinants, such as cognitive, affective, personality, and sociocultural factors, that have been shown to influence pain perception and treatment response (Engle, 1977). The current standard of care, the biopsychosocial approach, encourages collaboration between the patient and an interdisciplinary team in order to more effectively address the complexities of chronic pain management. Psychologists often play an important role on these teams by working with patients to increase knowledge, skill, and motivation levels needed to help patients actively and consistently engage in their chronic pain treatment programs.

Jensen & Turk (2014) outlined 4 major categories for psychological interventions for various chronic pain conditions. Therapists often combine these interventions in interdisciplinary pain treatment programs, in individual and group formats, for pediatric, adult, and geriatric patients (Moss, 2014) because chronic pain conditions are medically complex with numerous psychological, physiological, and psychosocial effects and sequelae.

- **Operant model**, based on behavioral principles such as reinforcement and extinction, emphasizes the role of interventions for reinforcing adaptive coping strategies while not reinforcing excessive pain behaviors and unhelpful coping (e.g., isolation, prolonged rest, substance use).

- **Peripheral physiological model**, including relaxation training and biofeedback, promotes body awareness and reduces excess muscle tension that exacerbates and prolongs pain, using progressive muscle relaxation, autogenic training, and diaphragmatic breathing.

- **Cognitive and coping models**, including Cognitive Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT), which help individuals challenge and change unhelpful beliefs regarding their pain (e.g., “nothing works and my life will never be the same”) and focus on living in accordance with their values despite it.

- **Central neurophysiological models**, including hypnosis and neurofeedback or electroencephalographic (EEG) biofeedback with real-time measurement and feedback (via visual, auditory, or tactile means) as reinforcement for EEG activity associated with normative brain function and/or a physically calm yet mentally alert state (Jensen & Turk, 2014). The reduces pain frequency and intensity of pain (see Santoro & Cronan, 2014, for a review of neurofeedback for fibromyalgia), improved occupational status, and increased efficacy of concurrent therapies (Mueller et al., 2001). Psychological interventions have the overriding goals of increasing well-being, quality of life, and functional capabilities (Jensen & Turk, 2014). These outcomes are more likely with a flexible and individualized therapeutic approach to help individuals transition from a passive role viewing themselves as helpless in the face of pain, to one in which they are actively engaged in their treatment and in life.

Hypnosis has been found to be beneficial (Turk & Jensen, 2014). Elkins and colleagues (2007) conducted a meta-analysis of 13 prospective trials of hypnosis for chronic pain associated with cancer, low back pain, arthritis, sickle cell disease, temporomandibular joint disorder, and other disabling pain conditions, noting that hypnosis interventions consistently produced significant decreases in chronic pain. Others have found hypnosis equal to or more effective than many non-hypnotic interventions (guided attention, physical therapy, biofeedback, and education) (Tan et al., 2015; Elkins, Jensen, & Patterson, 2007).

Elkins and colleagues (2007) noted that most treatment trials described methods that included instruction in self-hypnosis. Patients who actively practice this are more likely to benefit and have longer lasting gains (Elkins, Cheung, Marcus, Palamara, and Rajab, 2004; Jensen and Barber, 2000). Instruction in self-hypnosis typically involves providing patients with tape recordings of hypnosis sessions and instructions for daily home practice. Jensen and Patterson (2006) also recommended prescribing daily
self-hypnosis practice as part of their basic chronic-pain hypnotic-analgesia intervention program with a focus of attention and relaxation and at least 20 minutes of hypnotic suggestions to change the subjective experience of pain. They advise having patients agree to a course of “brief hypnosis treatment,” four to seven sessions, versus traditional hypnotherapy of eight or more session, based on clinical necessity.

Psychosocial assessments include:
- Information from record reviews
- Interview responses on medical, mental health, and lifestyle factors
- Interpretation of standardized testing data

Integrated reports identify patients with psychological and social characteristics that increase the likelihood of benefit from spinal cord stimulators (SCS), pain pumps, and spinal surgeries (Beltrutti et al., 2004), and who, despite meeting appropriate clinical criteria, have features that would increase the likelihood of poor treatment outcomes. These pre-surgical assessments predicting poor spinal surgery outcomes were more than 80% accurate (Block, Ohnmeiss, Guyer, Rashbaum, & Hochschuler, 2001).

Psychosocial assessments can support early psychological care for pain catastrophizing, obesity, smoking, and untreated mood, trauma, or substance use disorders to improve treatment outcomes. Van Dorsten (2006) suggested that patients preparing for implantation procedures participate in 2-4 preoperative psychotherapy sessions and 6-8 postoperative sessions for behavioral health assessment and interventions to improve postoperative pain management. These include looking at post-surgical expectations and education on:
- Sleep hygiene
- Stress management
- Relaxation instruction
- Appropriate self-monitoring of pain and activity level

Cognitive-behavioral therapy (CBT) is a multimodal pain treatment in itself, including cognitive restructuring, behavioral change strategies, relaxation techniques, and even central neurophysiological methods of self-

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**FREQUENTLY USED BILLING CODES FOR PSYCHOLOGICAL SERVICES**

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>CPT Codes</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90880</td>
<td>Hypnotherapy reasonable and necessary for the treatment of a medical or psychological condition</td>
</tr>
<tr>
<td>Biofeedback</td>
<td>90875</td>
<td>Used by mental health providers for sessions that combine biofeedback with some type of talk therapy. (25 minute session)</td>
</tr>
<tr>
<td></td>
<td>90876</td>
<td>Used by mental health providers for sessions that combine biofeedback with some type of talk therapy (50 minute session)</td>
</tr>
<tr>
<td></td>
<td>90871</td>
<td>A pure biofeedback code with usual treatment parameters of up to 5 times for 2 or 3 weeks</td>
</tr>
<tr>
<td>Pre-Surgical Assessment</td>
<td>90791</td>
<td>Psychiatric diagnostic interview without medical services</td>
</tr>
<tr>
<td></td>
<td>96101</td>
<td>Psychological testing, interpretation and reporting per hour by a psychologist (per hour)</td>
</tr>
<tr>
<td></td>
<td>96103</td>
<td>Psychological testing administered by a computer, with qualified health care professional interpretation and report</td>
</tr>
<tr>
<td>Psychotherapy</td>
<td>90832</td>
<td>Individual psychotherapy, 30 minutes</td>
</tr>
<tr>
<td></td>
<td>90834</td>
<td>Individual psychotherapy, 45 minutes</td>
</tr>
<tr>
<td></td>
<td>90837</td>
<td>Individual psychotherapy, 60 minutes</td>
</tr>
<tr>
<td></td>
<td>90853</td>
<td>Group psychotherapy</td>
</tr>
<tr>
<td></td>
<td>90785</td>
<td>Interactive complexity add-on (for psychotherapy codes)</td>
</tr>
<tr>
<td>Health &amp; Behavior Intervention</td>
<td>96150</td>
<td>Health &amp; Behavior Intervention – Group (each 15 mins)</td>
</tr>
<tr>
<td></td>
<td>96151</td>
<td>Reassessment (each 15 mins)</td>
</tr>
<tr>
<td></td>
<td>96152</td>
<td>Health &amp; Behavior Intervention – Individual (each 15 mins)</td>
</tr>
<tr>
<td></td>
<td>96153</td>
<td>Health &amp; Behavior Intervention – Group (each 15 mins)</td>
</tr>
</tbody>
</table>

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management such as hypnosis (Jensen & Turk, 2014). (Ed. note. See Coupland, this issue, for more information on CBT)

**Summary**

Although outlining all psychological services available for chronic pain is beyond the scope of this article, we believe this brief overview highlights the invaluable role this discipline can contribute to a team-based approach. Many of the interventions described here require specialty training. Referring providers, including nurse life care planners, should seek out psychologists with expertise in pain management or behavioral health for a detailed assessment and treatment plan. Psychologists can offer unique insights regarding potential risk factors, provide training for active pain coping skills, and facilitate cognitive coping strategies to improve psychosocial adjustment and enhance overall treatment outcomes.

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**REFERENCES**


Moss, D. (2014). Fall 2014 Special Issue: The Integration of Biofeedback and Neurofeedback into Comprehensive Treatment Programs. *Biofeedback, 42*(3), 91-92. doi:10.5998/1018-5937-42.3.8


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Cognitive behavioral therapy has been widely used clinically to treat patients suffering from symptoms that often accompany chronic pain: depression, insomnia, and anxiety. This article will address guidelines for frequency and durations of CBT by common life care plan nursing and medical diagnoses for patients with chronic pain.

Introduction
CBT could lead to better adjustment and improved symptom management in patients with chronic pain (Thorn, 2004). This is because thoughts are deeply connected with automatic, unconscious survival needs and, therefore, preventions and defense behaviors. CBT explains pain as cognitive distortions; the resulting thoughts and emotional states mediate pain perception.

The human brain is neurobiologically programmed to prepare our thoughts and behaviors to attack someone or to somehow protect one's self (by freezing or running away). These are chemically mediated by cortisol and adrenaline levels. Most cognitive distortions have no link to reality, but still have a great effect on physical state and psychological functioning. Therefore, CBT could be effecting in helping a person in pain to recognize distortions and substitute other
meanings for them. These awareness and modifications could reduce pain perception and improve therapy outcomes (Sturgeon, 2014).

One of the main obstacles to understanding CBT effects in chronic pain is that a wide range of different approaches are categorized under the “CBT” label (Williams et al., 2012). It is possible to consider as “traditional” the approach of Beck and their colleagues (e.g., Winterowd et al., 2003), as Beck founded the CBT, as it is now known, starting from the studies by Albert Ellis on the Rational-Emotive Behavior Therapy (e.g., Ellis, 1957; 1961).

Traditional CBT approach and its clinical application

Beck described CBT therapy of pain management as focused on behaviors, cognition, and psychosocial stressors. Beliefs and attitudes have a main role in pain management; having a realistic and hopeful attitude towards pain perception leads to a better psychological adjustment to pain, better physical functioning, and lower pain levels (e.g., Jensen et al., 1999; Stroud et al., 2000).

On the other hand, having catastrophizing thoughts about pain leads to poorer psychological and physical functioning (Severeinje et al., 2001). Moreover, behavioral responses to pain can be problematic (e.g., inactivity, complaining) or lead to secondary problems (e.g., social isolation). Therefore, Winterowd, Beck, and Greuer (2003) considered CBT for pain management as consisting of:

- **Behavioral techniques** refer to pain monitoring, activity scheduling, and activity level evaluation throughout the day.
- **Cognitive interventions** focus on identifying, evaluating, monitoring, and modifying three main points: thoughts, imagery and beliefs about pain.
- **Psychosocial stressors** Clinicians must consider the role of medical care management, relational issues, occupational, legal, and financial difficulties.

As reported by different studies (e.g., Turk et al., 2005; Gatchel et al., 2006), CBT is effective for chronic pain, even when compared with other medical approaches.

**CBT Focus**

CBT combines four main areas of clinical and educational practices (Skinner et al., 2012).

- Cognitive techniques are based on cognitive restructuring and problem solving interventions. Restructuring means evaluating and modifying negative thoughts and beliefs, reducing fear reactions; problem solving means identifying and resolving problems.
- Behavioral techniques include relaxation skills training, pacing, and behavioral activation. Relaxation skills training include mindfulness and meditation interventions, deep breathing, imagery and distraction. *Pacing* is the ability to cut daily activities in chunks. *Behavioral activation* means implementing graded activity programs, including activities enjoyed by the patient and general intervention of avoidance reduction.
- Supportive education techniques include supportive psychotherapy and psychoeducation about the etiology and treatment of pain.
- Other techniques: hypnosis to help the patient changing his/her perceptions, thoughts and behaviors in guided practice; biofeedback to help the patient understand and manipulate their physiological functions; relapse prevention strategies, such as coping skills training, individuation of triggers for relapse, and self-monitoring techniques.

**CBT and Sleep**

Poor sleep quality is common in chronic pain. It is still not clear if pain aggravates insomnia or if insomnia intensifies pain (Call-Smidt et al., 2003). Many studies show that 50-90% of chronic pain patients report clinical poor sleep conditions (Tang et al., 2007; Bigatti et al., 2008; McCracken et al., 2011; Artner et al., 2013; Zarrabian et al., 2014). This is particularly true for older adults, who are at risk for difficulties in falling asleep, staying asleep, and sleeping longer than usual (Chen et al., 2011). Moreover, sleep problems lead to other secondary conditions, such as physical inactivity and persistent fatigue, which in turn lead to greater disability (Lin et al., 2011; Valentine et al., 2011).

**Effect of CBT in addressing sleep**

CBT-I, Cognitive-Behavior Therapy for Insomnia, can be combined with other therapies. It includes sleep hygiene, sleep restriction therapy, sleep scheduling, relaxation, and imagery (Morin et al., 2006). In a recent meta-analysis, Tang and colleagues (2015) reported that CBT-I improves sleep quality, decreased attention to symptoms, lower pain intensity, and higher physical activity (e.g., Tang et al., 2014). Moreover, better sleep quality leads to reduced depression and fatigue (Manber et al., 2008; Irwin et al., 2014), commonly associated with chronic pain.

Hypnosis has been shown to have a good effect on the ability to fall asleep, to return to sleep if awakened, and to feel rested in the morning in chronic patients (Jensen, 2011)

**Role of Depression and Catastrophizing in Exacerbating Chronic Pain**

Chronic pain patients frequently report psychosocial difficulties leading to depression and anxiety (Linton et al., 2000; Carragee et al., 2005; Edwards et al., 2011; Kaison et al., 2011; Wertli et al., 2014a; 2014b). Depression could have a neurobiological origin; serotonin and norepinephrine moderate both pain and mood (Basbaum et al., 1978). Over 50% chronic pain patients report clinical symptoms of depression (Bair et al., 2003).

Chou (2007) showed that depression and chronic pain can have cyclical relationship, so that increases in pain predict increases in depression
and vice versa. For example, in 2011, Edwards reported a significant relationship between symptoms related to rheumatological disorders and depressive symptoms (Edwards et al., 2011).

The same study reported a significant association with catastrophizing, exaggeration of pain threat, combined with the rumination about pain and perceived helplessness to cope with it (Edwards et al., 2011; Ehde et al., 2014). The higher the depression and catastrophizing symptoms, the higher the pain severity, sensitivity to pain, and physical disability treatment was also less effective. Parents’ catastrophizing significantly increases a child’s pain perception and disability (Hechler et al., 2011). The effect of catastrophizing, depression, and fear avoidance beliefs on treatment outcomes has been widely reported (Kaisom et al., 2011; Wertli et al., 2014a; 2014b). Carragee and colleagues (2004) showed that depression, somatization and fear avoidance strongly predicted both long- and short-term disability in a longitudinal study.

Finally, these clinical problems may lead to further difficulties in chronic pain. For example, some studies of elders (Almeida et al., 2012; Tektonidou et al., 2011) showed that depression is associated with the presence of suicidal ideation; others (e.g., Rosemann et al., 2007; Chou, 2007) showed that, when compared with peers with chronic pain but without depression, these patients have more relational problems.

**Using CBT to Treat Depression and Catastrophizing**

CBT is a first-line approach for anxious patients (Hoffman et al., 2012). Zhu et al. (2014) suggested that the treatment of catastrophizing is critical, consistent with the finding that pain catastrophizing leads to poorer pain adjustment (Sullivan et al., 2001). This could make both physical treatment and CBT more effective, and decrease depressive symptoms and pain behavior (Spinovhen et al., 2004; Smeets et al., 2006) because as the catastrophizing thoughts decrease, the patient’s confidence in ability to engage in everyday activities increases.

Nicholas and colleagues (2013) showed that self-managed CBT had greater positive effects on self-efficacy for managing pain and fear avoidance beliefs than an exercise/attention control intervention.

**Life Outlook – Cognitive Distortions**

Cognitive distortions decrease individuals’ functioning by influencing the way they represent their own lives and act and behave daily (Burns, 1999). Cognitive distortions in chronic pain patients are frequently associated with anger and rage paired with injuries beliefs, creating hyperarousal and increasing perceived pain (Greenwood et al., 2003). Angry beliefs are strongly related to cognitive distortions, above all when considering that the person with whom the patients are more angry with is themselves (Greenwood et al., 2003).

Anger, when not openly expressed, can lead to secondary problems, such as external locus of control (blame). People with internal locus of control perceive pain less intensely and cope more effectively (Gustafsson et al., 1996; Haythornthwaite et al., 1998). Coughlin and colleagues (2000) found that combining CBT, physical exercise, medications, and relaxation training helps patients switch control from external to internal, helping them manage their pain better. On the other hand, a study conducted by Oliveira and colleagues (2012) reported the opposite effect: CBT led to an higher external locus of control in chronic low back pain patients, when comparing them to a control group. This is a counterintuitive result, which suggest that care providers could have a great influence in the way they manage the evaluating and modifying interventions on beliefs.

**Discussion**

As reported by Ehde and colleagues (2014) CBT is a “goal standard” treatment for chronic pain. Despite this, current studies on the effects of CBT on chronic pain patients report mixed results. While many studies described above have demonstrated that CBT can be a valid integration to medical and pharmacological therapies there is still a lack of consensus on some techniques such as hypnosis (Jensen et al., 2014).

Topics for further study include processes and mechanisms which underlie CBT effectiveness (McCracken et al., 2014) and how CBT interacts with other treatments (Ehde et al., 2014; Gatchel et al., 2014). Despite the current debate on the third wave approaches, such as ACT, a recent study (Åkerblom et al., 2015) showed that acceptance could have a main role in explaining CBT efficacy on chronic pain symptoms. The authors showed that, in a group of chronic pain patients who underwent a CBT program, pain acceptance wasn’t associated with pain intensity (which is consistent with ACT objectives), but mediates the outcome of the treatment (such as reduced pain interference with daily life and depression). Age may be important: Wetherell and colleagues (2015) reported that while adults aged 46-89 years are more likely to respond to ACT, adults aged 18-45 years are more likely to respond to CBT, both after eight weeks of treatment and for six months afterwards.

Depression, anxiety, catastrophizing, insomnia, and other painful medical conditions such as diabetes and cardiovascular diseases may influence patients’ clinical histories so much that CBT clinicians may need to plan treatments for pain for specific subgroups (Ehde et al., 2014). Moreover, these are frequently connected to psychosocial stressors, such as financial, occupational and...
relational problems. The therapist must consider these variables to properly address the patient’s functioning; CBT effectiveness studies could be widely influenced by these conditions.

At the same time, CBT has been widely reported as effective in modifying beliefs systems, which, in turn, can help patients in modulating and managing pain perception. Most studies about CBT and possible comorbid disorders showed that cognitive and behavioral interventions are valuable techniques.

Finally, CBT has been shown to increase compliance with commonly-included life care plan provisions, such as smoking cessation, compliance with physical therapy, time spent conditioning, and a better diet.

**Summary**

Cognitive behavioral therapy has many positive effects on comorbidities that complicate care for patients with chronic pain, especially depression, anxiety, catastrophizing, and sleep disturbance. Adding CBT to an integrated pain management plan could significantly affect quality of life in this population.

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Authors: Committee on Advancing Pain Research, Care, and Education, Board on Health Sciences Policy, Institute of Medicine
Publisher: National Academies Press, 2011
ISBN 030921484X, 9780309214841
Length: 382 pages
http://tinyurl.com/njranxj

Managing Chronic Pain: A Cognitive-Behavioral Therapy Approach Workbook, Treatments That Work
Author: John Otis
Publisher: Oxford University Press, 2007
ISBN 019045010X, 9780190450106
Length: 96 pages
http://tinyurl.com/phred6j

Comprehensive Treatment of Chronic Pain by Medical, Interventional, and Integrative Approaches: AMERICAN ACADEMY OF PAIN MEDICINE
Textbook on Patient Management
Publisher: Springer Science & Business Media, 2013
ISBN 1461415608, 9781461415602
http://tinyurl.com/nor7pc3

Chronic Pain Management: Guidelines for Multidisciplinary Program Development
Editors: Michael E. Schatman, Alexandra Campbell
Publisher: CRC Press, 2007
ISBN 142004513X, 9781420045130
Length: 298 pages
http://tinyurl.com/qz3qgw

Ethical Issues in Chronic Pain Management
Editor: Michael E. Schatman
Publisher: CRC Press, 2006
ISBN 1420009109, 9781420009101
http://tinyurl.com/pudm6j6

Evidence-Based Chronic Pain Management
Volume 66 of Evidence-Based Medicine
Editors: Cathy Stannard, Eija Kalso, Jane Ballantyne
Publisher: John Wiley & Sons, 2011
ISBN 1444359029, 9781444359022
http://tinyurl.com/pvenzes

ISBN 0340939923, 9780340939925
Authors: Peter Wilson, Paul Watson, Jennifer Haythornwaite, Troels Jensen
Publisher: CRC Press, 2008
ISBN 0340940085, 9780340940082
http://tinyurl.com/p8dw722

Compact Clinical Guide to Chronic Pain Management: An Evidence-Based Approach for Nurses
Contributor: Yvonne M D’Arcy, MS, CRNP, CNS
Publisher: Springer Publishing Company, 2011
ISBN 0826105483, 9780826105486
http://tinyurl.com/qgu4k9g

Psychosocial Interventions for Chronic Pain: In Search of Evidence Behavioral Science
Author: Ranjan Roy

Author: Philip Fisher
Publisher: iUniverse, 2002
ISBN 0595226779, 9780595226771
http://tinyurl.com/n9nk3cv

Contemporary Issues in Chronic Pain Management, Volume 9 of Current Management of Pain
Editor: Winston C. V. Parris
Publisher: Springer Science & Business Media, 2012
ISBN 1461538882, 9781461538882
http://tinyurl.com/osy8tfg

Author: James P. Robinson
Publisher: Elsevier Health Sciences, 2015
ISBN 0323376169, 9780323376167
http://tinyurl.com/q57atok

Integrative Pain Medicine: The Science and Practice of Complementary and Alternative Medicine in Pain Management
Editors: Joseph F. Audette, Allison Bailey
Publisher: Springer Science & Business Media, 2008
ISBN 1597453447, 9781597453448
http://tinyurl.com/qabp5zq
Editors: Dennis C. Turk, Robert J. Gatchel
Publisher: Guilford Publications, 2013
ISBN 1462515193, 9781462515196
http://tinyurl.com/psg8jyo

The Handbook of Chronic Pain
Editors: Shulamith Kreitler, Diego Beltrutti
Publisher: Nova Publishers, 2007
ISBN 1600210449, 9781600210440
http://tinyurl.com/nd2ln25

Back in Control: A Spine Surgeon's Roadmap Out of Chronic Pain
Author: David Hanscom
Publisher: Vertus Press, 2012
ISBN 0988272903, 9780988272903
http://tinyurl.com/opdeyko

Pain Medicine Manual
Editors: Simon J. Dolin, Nicholas L. Padfield
Publisher: Butterworth-Heinemann, 2004
ISBN 0750656174, 9780750656177
http://tinyurl.com/oovkacw

Chronic Pain, Volume 11 of Advances in Psychotherapy - Evidence-Based Practice

Authors: Beverly J Field, Robert A Swann
Publisher: Hogrefe Publishing, 2008
ISBN 1613343205, 9781613343203

Treatment of Chronic Pain by Integrative Approaches: AMERICAN ACADEMY OF PAIN MEDICINE
Textbook on Patient Management
Editors: Timothy R. Deer, Michael S. Leong, Albert L. Ray
Publisher: Springer, 2014
ISBN 1493918214, 9781493918218
http://tinyurl.com/oer2xpt

Essentials of Pain Medicine, 3rd edition
Authors: Honorio Benson, Srinivasa N. Raja, Scott E. Fishman, Spencer Liu, Steven P. Cohen
Publisher: Elsevier Health Sciences, 2011
ISBN 1437735932, 9781437735932
Length: 592 pages
http://tinyurl.com/ngu5xye

Treatment of Chronic Pain by Medical Approaches: AMERICAN ACADEMY OF PAIN MEDICINE Textbook on Patient Management
Editors: Timothy R. Deer, Michael S. Leong, Vitaly Gordin
Publisher: Springer, 2014
ISBN 1493918184, 9781493918188
Length: 219 pages
http://tinyurl.com/plugr3v

Editor: Richard S. Weiner
Publisher: CRC Press, 2001
ISBN 1420093193, 9781420093193
http://tinyurl.com/p8ryyj8

Behavioral and Psychopharmacologic Pain Management
Editors: Michael H. Ebert, Robert D. Kerns
Publisher: Cambridge University Press, 2010
ISBN 113949354X, 9781139493543
http://tinyurl.com/p9lezn6

DAVID DILLARD BA MLS
David has degrees in history and library science. He has worked at Temple University Libraries since 1970, first in the Business Library; he moved to Reference and concurrently began to learn bibliographic database searching. He now does collection development for Tourism, Hospitality, Sports Management, Recreation, Therapeutic Recreation, Public Health, Kinesiology, Disabilities, Social Work and Communication Disorders. Dave started sharing information sources and answers to questions on internet discussion groups around 1998 and that has grown to a cottage business. He started a network of public search engine indexed discussion groups and archives for sharing of posts of good websites, bibliographies of sources on a wide variety of topics, and news story summaries with source citations and links to those sources. He is a regular on several nursing specialty lists and is very open to contact from anyone to help with searches on any topic.
YOU CAN TAKE IT WITH YOU:

You are a nurse life care planner, part time or full time or maybe even overtime! It is likely that you may not be able to work in your office or home office everyday. Perhaps you travel to see clients or to testify. How do you keep your business at your fingertips? Perhaps you need to visit family or friends out of town. Maybe you are an avid traveler and want to take your office with you wherever you go.

I am all of the above. I have a lovely home office; filled with all of the stuff I think I need to be a successful nurse life care planner. But sometimes I travel to another city to interview a plaintiff. Sometimes I leave town to testify, or attend a conference or to market to attorneys. I also love to see my grandkids who live far away. And of course, I try to get away to my motorhome, as often as I can.

Your office is probably stuffed full of supplies, references, printers, scanners, fax machines, computers, backup devices and marketing material. What do you take with you? Over the years, I have researched ways to “take it with me” and I have a few ideas that may benefit you, too!

The major areas are your computer, cell phone, Wi-Fi, fax, research materials, marketing materials, office equipment and supplies, and backup files.

ALTERNATIVES:

Computer:
I have a very light laptop computer and I take it with me everywhere. I always buy a purse that will fit my laptop as well as the other stuff one keeps in a purse. If you are not a purse kind of person, a small backpack with a computer envelope or even a briefcase will work as well. Sometimes people are comfortable with a tablet rather than a light laptop. I like to be able to look at all of my reports because I often get a call from my attorney client who wants to discuss something for my report. Finding the file quickly is essential! As well, I like to send CV, fee schedules and even create retainer agreements in a timely manner, so I love having my MacBook Air with me at all times. Use your computer to find office supply stores, UPS, notary services and public libraries if you need a quiet place to work for a few hours.

Telephone:
I am a strong believer in using a cell phone as your main or only business phone. I find my hours are very variable in life care planning. I don’t want to miss important phone calls because I decided to take the morning off and get my hair done or buy groceries. As well, I check my text messages (even attorneys are using text) and my email when in or out of the office on my cell phone.

Wi-Fi:
If you want to use your computer when you are out of the office, you have a few choices for Wi-Fi. Most airports have pretty good Wi-Fi, although some of them are very slow. Some airlines offer Wi-Fi, for a charge or some are even free, although they are a bit slow. Most public libraries are excellent places to get Wi-Fi, few need a password and I can sometimes get a good signal from the parking lot. (This has made many a streaming Netflix evening possible from my motorhome.) Many restaurants, coffee shops and even McDonalds have Wi-Fi. This works in and out of the USA, anywhere there is Wi-Fi, you can use the Internet.

My favorite form of Wi-Fi is my hotspot on my cellphone. For about $30 per month, you can make the Internet connection that you have on your smartphone function as a transmitter, your
own Wi-Fi. Except for a few areas while traveling in the wilderness, I can use my cell phone hotspot for my entire Internet needs while in the US.

You may purchase a separate hotspot or Wi-Fi device, paying for the amount of data you think you may need. I have one for when I am traveling to Canada. A separate hotspot device is ideal when you do not have a smart phone. You can still get the Internet and you can even support several devices, for example a tablet, a computer and a friend’s computer all at the same time.

**FAX:**

There are many electronic fax services available for very small monthly charges. This allows you to send and receive fax through your email. Although fax seems like an outmoded form of communication, I find that most physicians’ offices only want to be contacted by fax, not email. eFax is an electronic fax system so you can send and receive faxes wherever you are. For letters and other documents that are on your computer, you simply upload the files as PDF attachments to your “eFax!”

**Research materials:**

Now you are wondering how I could possibly find a travel option for your extensive library! I do have about eight soft-covered textbooks that I like to have with me. I decide what to bring based on my length of time that I will be out of the office. I am gone, I don’t bring the books for trips less than a week. Even then, I have sometimes quickly photocopied a couple relevant pages just in case I decide I need to use them.

If your reference materials are available as an e-book, always purchase the e-book even if you also want the paper book. On trips, you won’t mind using the e-book when it saves you so much space and weight. If you have manuals or notes from conferences that you regularly refer to, scan them into your computer so that you have them at all times.

For trips over a week, I usually bring the books that I most often use, if I don’t have them available as e-books. Our Journal of Nurse Life Care Planning is available electronically; always keep a PDF copy of each issue on your laptop or tablet.

**Marketing Materials:**

Are you attending attorney conferences as a speaker? Bring your portable office, as well as many business cards and relevant material. Attorneys don’t usually want a lot of papers and things to drag along with them, so I find that a very good quality business card is the best thing to give an attorney.

If you are exhibiting at an attorney event, I recommend a tabletop or floor banner, and chocolate. Very few attorneys want to take a lot of materials, so I have my very good quality business cards, some left over postcards or brochures just to fill up the table, and a large bowl of Hershey’s chocolates. The banners will draw their attention, the chocolates will keep them coming back. I try to hand my business card to everyone who takes a chocolate, look him or her in the eye and try to get a conversation started. The banners I use are the ones that can be carried on a plane or checked in with luggage.

**Office Equipment:**

I am an office supplies junkie! When I used to work in a hospital, I liked to help the unit clerk pick out paper and staplers and all sorts of office supplies. Now that I have my own office, I may over-do it at times, with drawers filled with fancy post-it notes and colorful bulldog clips. But when I travel, it’s just the basics. It is easy to stop by any office supply shop in any small or large city to replenish your supply of printer paper, paperclips or whatever you need at that time. Although I try to stay as paperless as possible, I find that, from time to time, I do need to print or scan.

**Printer and Scanner:**

When I travel in my motorhome I bring along a small printer/scanner. When I am on the go, I use office supply shops or UPS stores.

A small printer or scanner can be bought for less than $100. It is hard to get a combination unit that is compact. I have tried a small printer and a handheld scanner. I am not very happy with the handheld scanner and I just use it for non-official functions, for example, I have used it to quickly copy a business card or to scan a plaintiff’s medication list. For my motorhome (and for your cabin, in-law suite, or the boat) I prefer a bit larger printer, scanner, photocopy unit. A fax is not needed since you won’t have a landline when you travel.

If you don’t want to carry a printer or scanner, try virtual offices, Staples, Office Max or UPS stores. You may show up at the store with your papers to be copied, or your thumb drive to be printed. You may even call ahead, get their email address and send the file that you want printed.

Use these resources as well for papers that you need scanned and in your computer. They can scan the papers, then email them to you or transfer them to a thumb drive, for later faxing or emailing or storing on them your computer.

As well as printing your material, these office stores can collate papers, and this is very handy if you need handouts for a presentation. No need to carry the handouts as you travel, just have the office store print and collate them for you, and pick them up on your way the presentation.

**Notarizing forms:**

Perhaps you write affidavits that need to be notarized. I go to a local UPS
store, get it notarized, scanned and faxed to the law office. I can also buy an envelope and stamp, and immediately mail the original copy to the attorney. It’s almost as good as being at home!

**Backup files:**
If you regularly back up your computer to a backup machine, consider using the “cloud,” at least for the time of your trip. Back up your computer before you leave. If you use “cloud backup,” you will always have recent backup of your business, even if you lose or damage your laptop. (Editor’s note: MS Word recently froze a huge document in a fit of pique; I couldn’t even save it or copy it, hours of work down the drain. I despaired when their tech support told me they had no workaround solutions at all, and reopened it after the inevitable Force Quit. I was thrilled to find that Dropbox had been backing up my every word and edit without even being asked, and there it was, all of it safe and sound. You can also use Dropbox in your tablet.)

**Carry it with you:**
When I am out and about in my own town, I just bring the purse or backpack with my computer, Wi-Fi and cell phone, as well as pens and paper.

When I travel anywhere, I use a rolling office bag as a carry on. Let the airlines lose your checked suitcase with clothes (you can buy more!) but don’t let them lose your computer and all of your business files.

I have tried a rolling briefcase better known as a catalog case (Fig. 1). This is good for files but not so good for smaller items like your checkbooks, logbooks, external CD driver, small pencil bag with pens and pencils, etc.

I have tried a simple rolling suitcase but I find that everything gets all mixed up and a mess. I also have trouble accessing it in a hurry, like when I need to see my laptop computer.

Currently I have a Swiss Army business bag made for office travel (Fig. 2). It has a zippered front pocket that is perfect of small office supplies, CD drivers, CDs, then a second zippered section with three divisions for files. It is wide enough that a letter sized manila folder does not get crumpled and it goes in and out easily. The next zippered section is for a laptop or you can fit a book or two in here, the ANA scope and standards book fits here, very well. The final zippered section is advertised as a place for overnight clothing. I guess I could fit a change of shirt and a hairbrush, but not much more. Instead I fill this area with books. There is a nice very small zippered pocket near the top of the main bag that easily keeps your ID or passport and boarding pass handy for security checks and for boarding the plane.

This Swiss wonder also comes with a smaller zippered briefcase that slides over the telescoping handle for ease when traveling. I put my laptop here, along with my “purse” items when I travel. I put this under the seat on an airplane and I have all the essential things at my fingertips.

You may need to try a few rolling bags before you find the case that suits you best. Being able to comfortably navigate hotels, taxis, courtrooms and airports with your entire business at your fingertips is a confidence booster, a relief during stressful times and it makes me just feel like I love my life as a mobile Nurse Life Care Planner!
Deep Brain Stimulation in Chronic Pain
1. The following inclusion criteria are necessary for a patient to receive a deep brain stimulator for chronic pain, except:
   a) All other conventional treatment therapies have failed
   b) Approval from a psychiatrist in spinal surgeon must be obtained
   c) Litigation and all other compensation claims have been resolved
   d) Pain must be characterized as neuropathic in nature
2. Four days postop a patient with an implanted deep brain stimulator reports nystagmus, blurry vision, and objects appearing to be swaying in front of him. These symptoms are consistent with:
   a) Known transient side effects
   b) Lead migration or fracture
   c) Settings required adjustment
   d) Serious infection
3. Deep brain stimulation has found to be ineffective in which of the following pain syndromes?
   a) Brachial plexus injury pain
   b) Complex regional pain syndrome
   c) Chronic low back and leg pain
   d) Pain due to spinal cord injury

A Child in Pain
1. A multidisciplinary approach to pain management and children is more successful than in adults because children respond better to:
   a) Adult authority figures
   b) Behavioral measures and physical modalities
   c) Multiple choices of treatment
   d) Suggestions from multiple providers
2. The focus on psychological aspects of pain management for children is important because:
   a) Behavioral and cognitive therapy can lessen the effect of pain on children
   b) Behavioral and cognitive therapy rewards children for pain behavior
   c) Children can learn to use pain to develop stronger sense of self
   d) Pain is a common attention-seeking device in children
3. Measuring pain in children is:
   a) Complex, due to underlying psychosomatic attempts to exaggerate pain
   b) Complex, due to variation in age, temperament, and verbal expression
   c) Simple, as all children can use the Wong-Baker Faces™ pain rating scale
   d) Simple, since children have the same physical responses to pain as adults

CEU offering, JNLCP, March 2016
This offering available until February 28, 2017

A Message from the AANLCP Education Committee
We are excited to have CEU questions in the JNLCP! This feature will appear in every issue and contain one CEU credit available for 12 months after the date of publication.

At only $10, this is an economical way for you to get recognition for the learning you do as you read the Journal.

We’re looking forward to your feedback and ideas on this, so please take a moment to let us know what you think!

Becky Czarnik MS RN CLNC, LNCP-C
Education Committee Chair, AANLCP

For a minimum of 5/6 correct answers, you will receive 1 CEU credit. Click <here>, or email <info@aanlcp.org>, for the link to enter your answers and make payment ($10). You may choose to have your certificate placed in your AANLCP file, or have it emailed to you. Certificates will be date/time stamped with the time and date of the day the user passes the test (Pacific Time, U.S.).
2012
XII.1 Coding and Costing
XII.2 Electrical Stimulation Technology
XII.3 Preconference / Brain Injury
XII.4 Veterans Administration

2013
XIII.1 LCP for Motor and Developmental Disorders
XIII.2 Ethical Topics in LCP
XIII.3 Preconference / Exemplars in NLCP
XIII.4 Home Modifications

2014
XIV.1 Technology Updates

2015
XV.1 Topics in Transplantation
XV.2 Updates in Spinal Cord Injury
XV.3 Burns
XV.4 Perinatal / Childhood

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XVI.3 International LCP
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