



Chronic Regional Pain Syndrome, Type 1: Part II

Chronic regional pain syndrome, type 1 (CRPS1) is a complex neurologic disease that often follows trauma or surgery. It is characterized by chronic, severe, burning pain; hyperesthesia; soft tissue swelling; dystrophy; hyperhidrosis; vasomotor and sudomotor instability; joint stiffness; and patchy osteoporosis. Five to six million people in the United States alone suffer from CRPS1.¹ To date, CRPS1 is poorly understood and often is not recognized clinically. Treatment is difficult, and there is disagreement about which kind of treatment works best. The only area where there is agreement among clinicians is the need for early detection, pain control, and treatment in tandem with physical therapy to the affected area.

The primary treatment modality for CRPS1 is nerve block, as discussed in part I (*AORN Journal*, September 1999). The remaining treatment modalities include sympathectomy, physical therapy, nerve stimulators, trigger point injections, acupuncture, tourniquet effects, placebo effects, and amputation.

ABSTRACT

Chronic regional pain syndrome, type 1 (CRPS1) is a complex neurologic disease characterized by chronic, severe, burning pain; hyperesthesia; soft tissue swelling; dystrophy; hyperhidrosis; vasomotor and sudomotor instability; joint stiffness; and patchy osteoporosis. Five to six million people in the United States alone suffer from CRPS1. To date, CRPS1 is poorly understood and often is not recognized clinically. This syndrome requires early detection, pain control, and treatment in tandem with physical therapy to the affected area. Part I (published in September) discussed background information on CRPS1 and sympathetic nerve blocks. Part II focuses on the remaining treatment modalities (eg, sympathectomy, physical therapy, stimulators, trigger point injections, acupuncture, tourniquet effects, placebo effects, amputation). *AORN J* 72 (Oct 2000) 643-653.

SYMPATHECTOMY

Sympathectomies are performed two ways—by using chemical neurolytic agents and surgically. Surgical and chemical sympathectomies are recommended as a means to interrupt the positive feedback cycle when all other less invasive methods that have previously provided partial or complete relief no longer work.² Physicians can inject neurolytic chemicals via percutaneous injection and can perform surgical sympathectomy using an endoscope or through a larger incision site.

Sympathectomy is a last resort.³ The patient's symptom duration before sympathectomy is significantly related to surgical outcome. Patients with unsuccessful surgical outcomes usually have waited longer for treatment or have spent time on other treatments before seeking the sympathectomy.⁴ Surgical sympathectomy of the ipsilateral lumbar chain is indicated only if temporary relief has been obtained with local anesthetic blocks. Even with local anesthetic block relief, however, the failure rate with ipsilateral surgical sympathectomy is 30% to 40%.⁵ For permanent sympathectomy, bilateral procedures are sometimes required because of the bilateral nature of spinal cord sympathetic fiber distribution.⁶ Unfortunately, after five years, many patients return to their pretreatment condition.⁷ In addition, sympathectomy for pain in multiple extremities is not tolerated well because of problems with thermal regulation and control of the bowel, bladder, or ejaculation.⁸

The type of sympathectomy chosen depends on many factors, including surgeon preference and level of expertise, the location of

the ganglia, patient anatomy, patient preference, extent of the illness, and previous modalities used. Risks include those encountered with general anesthesia, which the surgical options require, and the risks associated with using neurolytic chemicals.

Chemical/neurolytic sympathectomy. Chemical sympathectomy is achieved through a needle injection to a specific site, usually with radiographic localization. It is important to use contrast media to obtain a good view of the ganglia receiving the medication because these chemicals are destructive to any tissue they contact. An inaccurate injection will result in new scar tissue and a new source of pain. The two medications most commonly injected are 7% to 10% phenol or 50% to 100% ethanol.⁹ Phenol is an acid that is a strong antiseptic solution. Ethanol is an alcohol. Injection of either medication results in nerve death with long-term local anesthesia. This treatment usually is performed only if all other treatments have been ineffective. Percutaneous chemical sympathectomy can be performed as same day surgery. The procedure causes permanent tissue damage and is associated with such complications as paralysis, renal and vascular trauma, and injury to other organs and nerves (ie, phenol or alcohol neuritis), and postsympathectomy pain.¹⁰

Surgical sympathectomy. Surgical sympathectomy may be accomplished by video-assisted thoracoscopy (VATS), thoracotomy, video-assisted lumbar, open lumbar, and radiofrequency (percutaneous) methods. All of these procedures require general anesthesia.¹¹

Video-assisted thoracoscopy (VATS). Video-assisted thoracoscopy with direct electrocautery of identified ganglia is being used more than open thoracotomy and has good success rates.¹² Thoracoscopy provides excellent exposure of the sympathetic chain with minimal postoperative pain, although there may be discomfort from the chest tube postoperatively. Limited thoracoscopic sympathectomy appears to be an effective treatment for patients with palmar and axillary hyperhidrosis and for patients with Raynaud's syndrome. The success rate for patients with dystrophic disorders of the hand, however, is low.¹³

Thoracotomy. The open, thoracic sympathectomy is performed using the posterior, supraclavicular, or axillary transthoracic approach to remove or resect the sympathetic chain and ganglia. The major risks are injury to great vessels, Horner's syndrome, pneumothorax, intercostal neuralgia, and brachial

plexus injury.¹⁴ Postoperatively, the patient will have a chest tube, as well.

Video-assisted lumbar sympathectomy. The video-assisted lumbar sympathectomy allows for endoscopic vision of the site and a smaller incision than the open technique. The patient is placed in a semilateral position, and the surgeon makes a 1 cm incision in the patient's flank to permit finger dissection into the intraperitoneal plane. He or she inserts another port made for a 12-mm balloon dissector. The retroperitoneum is insufflated with carbon dioxide, and the iliac fossa and subcostal working ports are inserted under direct vision. The surgeon identifies the lumbar sympathetic chain on the lateral surface of the lumbar vertebrae and excises the sympathetic ganglia from the upper limit of the dissection (ie, renal pelvis) to the pelvic brim.¹⁵

Open lumbar sympathectomy. The open lumbar sympathectomy is a painful, muscle-cutting incision through the iliac fossa that requires postoperative hospitalization for up to five days. Lumbar sympathectomy may require excision of ganglia from T10 through L4.

Radiofrequency sympathectomy. The surgeon makes a minimum of three lesions rostrocaudally (ie, toward the front or cephalic end of the body) into each ganglion to destroy the entire ganglion with radiofrequency. The procedure can be done under general anesthesia, although having the patient sedated and under neuroleptanalgesia facilitates intraoperative monitoring. The goal is to keep the patient alert enough to respond to threshold testing with electrical stimulation before destroying the ganglion. After the radiofrequency procedure begins, the anesthesia care provider induces deep analgesia and, possibly, unconsciousness.¹⁶

The perioperative team places the patient prone on an OR bed that accommodates fluoroscopy. A small bolster is placed beneath the patient's chest to increase neck flexion angle. The surgeon uses radiofrequency needles percutaneously under fluoroscopy guidance for correct placement. The needles initially are placed in the midportion of the ganglion, and electrical stimulation is performed at 2 Hz when voltage is not less than 1.0 v intensity. Sufficient radiofrequency power (ie, electrocoagulation) is applied to raise electrode temperatures to 90° C (194° F), and this temperature is maintained for 180 seconds for each lesion.

The success of destroying the ganglion is monitored by observation of pulse amplitude widening

Table 1**OTHER TREATMENT MODALITIES FOR CHRONIC REGIONAL PAIN SYNDROME¹****Medications (oral, transdermal, intravenous, and intrathecal)**

Beta adrenergic blockers (eg, propranolol [Inderal]), sympatholytic agents: Used because of their vasodilation effects.

Adrenergic blockers (eg, guanethidine [Esimil], bretylium [Bretylol], reserpine [Diapres], hydralazine [Apresoline], clonidine [Catapres], droperidol [Inapsine]): Used to relieve the systemic effects of sympathetic hyperactivity.

Calcium channel blockers (eg, nifedipine [Procardia]): Causes vasodilation, provides pain relief.

Serotonin antagonists (eg, ketanserin [Serefretx]): May provide analgesia.

Calcitonin: Has analgesic action and anti-bone reabsorptive activity.

Neuroleptics: These medications produce symptoms resembling diseases of the nervous system.

Corticosteroids (eg, prednisolone [Prednisone]): Decrease inflammation.

Nonsteroidal anti-inflammatory drugs (NSAIDs), cyclooxygenase inhibitors (eg, ketorolac [Toradol]): Interfere with the production of prostanoids, thereby decreasing inflammation and pain.

Analgesics (eg, acetaminophen, aspirin): Provide pain relief.

Muscle relaxants (eg, cyclobenzaprine hydrochloride): Provide relief from muscle spasm.

Anticonvulsants (eg, phenytoin sodium [Dilantin]; carbamazepine [Tegretol]; gabapentin [Neurontin]): Provide pain relief.

Narcotics (eg, morphine, oxycodone): Relieve pain.

Benzodiazepines (eg, diazepam [Valium]): Induce calming effects.

Antidepressants (eg, amitriptyline hydrochloride [Elavil]): Block norepinephrine, serotonin reuptake, and alpha 1-adrenergic receptors; reduce sympathetic efferent activity, and block hyperalgesia.

Foods

Foods (eg, capsicum, the pungent component of hot peppers): Reduces pain and inflammation.

Somatic nerve blocks

Bupivacaine hydrochloride 0.25% [Sensorcaine]: Provides temporary pain relief.

Biofeedback**Psychiatric/psychological assessment and counseling****NOTE**

1. B V MacFarlane et al, "Chronic neuropathic pain and its control by drugs," *Pharmacology and Therapeutics* 75 no 1 (1997) 1-19; N Gordon, "Review article: Reflex sympathetic dystrophy," *Brain and Development* 18 (July/August 1996) 257-262; S M Walker, M J Cousins, "Complex regional pain syndromes: Including 'reflex sympathetic dystrophy' and 'causalgia,'" *Anaesthesia and Intensive Care* 25 (April 1997) 113-125; R F Lopez, "Reflex sympathetic dystrophy: Timely diagnosis and treatment can prevent severe contractures," *Postgraduate Medicine* 101 (April 1997) 185-190; W S Kingery, "A critical review of controlled clinical trials for peripheral neuropathic pain and complex regional pain syndromes," *Pain* 73 (November 1997) 123-139; J M Farcot, M Gautherie, G Foucher, "Regional intravenous sympathetic nerve blocks," *Hand Clinics* 13 (August 1997) 499-517; A M Colton, L F Fallat, "Complex regional pain syndromes," *Journal of Foot and Ankle Surgery* 35 (July/August 1996) 284-296.

with bilateral simultaneous finger plethysmography. Bilateral skin temperature measurements also are monitored electronically. The surgeon makes a pair of additional lesions 10 mm to 15 mm rostral and caudal to the first at each ganglion site to destroy the entire fusiform ganglion. At the conclusion of destroying the ganglion, he or she removes the electrodes and applies small bandages. The patient is examined by auscultation of the lungs and listening for fremitus (ie, a palpable vibration or thrill) for evidence of pneumothorax and a confirmatory chest radiograph is obtained. The patient is discharged home the same day and instructed to report any progressively severe chest pain or shortness of breath.¹⁷

Postoperative course. Postoperatively, the sympathectomy patient can have postsympathectomy pain called sympathalgia, which occurs in 44% of the patient population undergoing surgical sympathectomy. The incidence is higher for chemical sympathectomies. The major side effects of sympathectomy are compensatory hyperhidrosis of the face, trunk, or legs, which occurs 48% to 68% of the time; pneumothorax; permanent Horner's syndrome; regional neuralgia; or breast pain.¹⁸ The possibility of recurrence of sympathetic hyperactivity with percutaneous radiofrequency sympathectomy is significant, as there is actual nerve regeneration. Patients undergoing this approach, therefore, are more likely to return for further surgery if recurrence occurs.¹⁹

The precision of surgical sympathectomy is important—it must completely denervate the appropriate limb to be effective.²⁰ The sympathectomy may provide complete, partial, or no relief. In some cases, it actually may result in increased pain in the long run because sympathetically mediated pain (SMP) symptoms can recur with collateral nerve regeneration after the sympathectomy.²¹ Some patients have successful long-term outcomes with sympathectomy with minimal discomfort. In general, the sympathectomy provides 100% relief in the first few months, but after two to seven years, the rate of success drops to 15% to 30%. Failure rate during a 10-year period can be as high as 71%. Some surgeons do not advocate the sympathectomy procedure because long-term results, in general, can be disappointing. Patients experience initial relief, but they slowly notice the recurrence of symptoms, which may be related to the regeneration of the sympathetic fibers, the impossibility of producing a total sympathectomy, the sensitization of the sections of postganglionic fibers, or the existence of accessory ganglia and independent sym-

pathetic pathways.²² The response to this method is varied and pain relief is unpredictable.²³

OTHER MODALITIES

Various treatment modalities can be used in conjunction with, or separately from, the sympathetic nerve blocks, as noted in Table 1. The major treatment categories are discussed in further detail below. In tandem with each modality, physical therapy should be used to work the muscle groups and help relieve edema. In addition, psychiatric and psychological assessment in patients with chronic pain can motivate and help patients cooperate with treatment.²⁴ Patients with chronic long-standing CRPS1 often require behavioral and cognitive pain management therapies to break the pattern of disuse and fear of pain. A multidisciplinary treatment plan should be instituted to allow the CRPS1 patient to return to his or her optimum health level with maximum activities of daily living (ADL) and function.

Physical therapy. Physical therapy is the first line of treatment, whether it be the sole treatment modality or performed in conjunction with nerve blocks.²⁵ Physiotherapy should immediately follow the block. Blocks without consequent physiotherapy have high failure rates. Immobilization and overprotecting the affected limb may produce or exacerbate demineralization, vasomotor changes, edema, and trophic changes.²⁶ The patient's affected limb must be elevated as often as possible and actively mobilized several times per day. Table 2 lists various techniques used during physical therapy. The most important rule is to minimize pain while employing physical therapy. When excessive pain is created, sympathetically mediated pain may worsen. It is vital to not re-injure the region or aggravate the problem with aggressive physical rehabilitation.²⁷

Recovery from muscle dysfunction, swelling, and joint stiffness requires appropriate exercise. Physical activity, pressure, and motion are necessary to maintain joint movement and prevent stiffening. The patient should progress slowly with strengthening, active-assisted range of motion, and active range of motion exercises. The pace must not be forced too vigorously. Affected joints should be rested and elevated to counteract the vascular stasis, but the joint also should be mobilized gently several times per day.²⁸ Physical therapy is advised as long as the patient works within his or her pain threshold. Complete rest to the affected region, particularly immobilization in a cast, is harmful.²⁹

Table 2

**VARIOUS TECHNIQUES USED DURING
PHYSICAL THERAPY FOR CHRONIC
REGIONAL PAIN SYNDROME¹**

- Gentle massage
- Alternating hot and cold application
- Cryotherapy
- Active and passive range of motion
- Whirlpool therapy
- Moist heat
- Elevation of the region
- Compressive garments (ie, ischemic compression)
- Paraffin baths
- Diathermy
- Biofeedback
- Desensitization (performed sequentially to decrease hypersensitivity)

NOTE

1. D Z Levine, "Burning pain in an extremity: Breaking the destructive cycle of reflex sympathetic dystrophy," *Postgraduate Medicine* 90 (August 1991) 175-185; M A Hardy, S G P Hardy, "Reflex sympathetic dystrophy: The clinician's perspective," *Journal of Hand Therapy* 10 (April/June 1997) 137-150; T N Lindenfield, B R Bach, E M Wojtys, "Reflex sympathetic dystrophy and pain dysfunction in the lower extremity," *Instructional Course Lectures* 46 (1997) 261-268; N Gordon, "Review article: Reflex sympathetic dystrophy," *Brain and Development* 18 (July/August 1996) 257-262.

Stimulators. Three types of nerve stimulators are available—spinal cord, peripheral nerve, and transcutaneous electrical nerve stimulation.³⁰ Electrical stimulators are applied or implanted to provide intermittent or continuous stimulation. The stimulators work either by blocking sympathetic nerve fiber transmission or by releasing endogenous opioids with stimulation. In doing so, pain relief is obtained and physical therapy can be used to help restore function.³¹

One study implanted spinal cord stimulators (SCS) through needles and a small laminotomy incision using fluoroscopy. These patients first used the SCS before it was internally placed to ensure they experienced pain relief. Surgeons placed implanted devices in subcutaneous pockets below the clavicle

for upper limb implants and in the right iliac fossa or the superior gluteal area for lower limb implants.³² Battery operated SCS also can be implanted near the spinal column.

Spinal cord stimulation is an effective treatment modality for refractory CRPS1. Researchers favor SCS rather than permanent surgical or chemical sympathectomy because it demonstrates low morbidity and excellent efficacy for CRPS1. As with all treatments for CRPS1, the earlier the treatment, the better the results.³³

Trigger point injections with local anesthetic. Injecting local anesthetic agents into subcutaneous tissue temporarily relieves pain felt in that region (Figure 1). This relief sometimes is needed to break the pain cycle experienced by the patient. One author, however, feels that trigger point injections actually may induce, sustain, or worsen CRPS1 in the affected limb.³⁴

Acupuncture. Acupuncture is a therapy developed more than 2,000 years ago in Asia that consists of stimulating designated points by the insertion of needles to restore and balance the body's energy. Acupuncture can produce regional anesthesia by conducting a weak electric current through the inserted needles. Explanation of how it produces anesthesia currently is being investigated.

Tourniquet effect. Tourniquet occlusion as the sole method of treatment is capable of producing pain relief.³⁵ Occluding circulation to the limb for 10 minutes relieves sympathetic algodystrophies for an hour or more.³⁶ One author states that tourniquet-produced ischemia alone may be as effective as the intravenously injected medication.³⁷

Placebo effect. Placebo effects have been documented where patients who received saline as a control in research studies rather than a local anesthetic reported being pain-free after the injection.³⁸ Use of a placebo is not a method of treatment used in CRPS1, but it is an interesting secondary gain discovered during research. Saline injections could have resulted in large decreases in pain for the following reasons: placebo effect, mild local anesthetic effects from saline, stress, and other nonspecific aspects of injection procedures.³⁹

Amputation. Generally, this method is not helpful for most patients with CRPS1, and many physicians condemn this practice.⁴⁰ The greatest benefits from amputations occur when there is an infection in the limb or when the patient feels his or her situation is hopeless. One study found only two out of 28



Figure 1 • Trigger point injection. Injecting local anesthetic agents into subcutaneous tissue temporarily relieves pain felt in that region.

patients obtained relief from amputation. Most found CRPS1 recurs in the stump, and the CRPS1 was debilitating to the point where the patients were unable to wear a prosthesis.⁴¹ In addition, 71% of these patients also experienced phantom pain postamputation.

CASE STUDY

Ms K is a 48-year-old female with chronic CRPS1. Before being diagnosed in 1990, she had complained of pain, finger numbness, and decreased range of motion in both of her wrists, probably related to typing on the computer for her job. The orthopedic surgeon diagnosed De Quervain's contractures of the wrist, and for several years, Ms K tried physical therapy, had cortisone injections, and had her wrist braced to avoid surgery. In October 1990, Ms K had a small incision made in her right wrist, which was more symptomatic than the left. The surgeon removed numerous neuromas. Within one month of the surgery, however, the pain worsened. Ms K's signs and symptoms were burning pain, weakness and numbness of the fingers, extreme sensitivity to touch, and cold skin (her right hand was cold and blue, and the left hand was warm). She was unable to move her hand or participate in physical therapy. After the surgical procedure, she also had been placed in a cast, which was removed within two weeks postoperatively because of these symptoms. Another surgeon, a hand specialist, then performed a second surgery to remove more neuromas. A third surgical procedure was scheduled to remove even more neuromas. The neu-

romas were increasing in number and size during this time period. Ms K was diagnosed with CRPS1 around the time she had her third procedure.

Ms K had several more surgeries on her right arm by various specialists in different hospital locations, and the incision site was enlarged to the entire length of her right arm up to her elbow. At one point, she was a candidate for receiving a nerve transplant from her son's leg to her right arm to hopefully stop the neuromas from growing, but she was unable to handle the anti-rejection medications that she was tested with preoperatively.

The CRPS1 began to spread up her right hand to her elbow, right shoulder, across her neck, and into her left shoulder. She had surgery for her left hand about one and one-half years after her right-hand surgery was completed. This side had smaller and slower-growing neuromas than the right side. In 1994, she broke the left fifth digit of her toe, and within two weeks, she developed CRPS1 in her left foot. She was not placed into a cast, but the bone did not heal. After about four months, the CRPS1 crept up into her left knee, and a few months later was seen in her left hip. About one and one-half years later, CRPS1 entered into her right hip and traveled down to her right foot. According to Ms K, CRPS1 is now in all her limb joints and upper back. It has not affected her face, chest, abdomen, or lower back. During the past eight years, Ms K has broken five bones, all of which have taken an extremely long time to heal.

Ms K is on very large doses of narcotic medications. On a daily basis she takes oxycodone for pain, oxycontin for break-through pain, gabapentin (ie, Neurontin) for pain, venlafaxine hydrochloride



Figure 2 • Administration of a Bier block.

(ie, Effexor) and trazadone hydrochloride (ie, Desyrel) for depression and chronic pain, and triazolam (ie, Halcion) to sleep. In the past, she also has taken morphine for pain and fluoxetine (ie, Prozac) for depression. In addition to these medications, she has gone to physical therapy and counseling.

In terms of sympathetic blocks, Ms K met with Jay Lee, MD, chairman of the anesthesia department at Wayne General Hospital, Wayne, NJ, in 1990. He performed stellate ganglion blocks three times per week for Ms K. When she was hospitalized, he would perform four bilateral stellate blocks a day. In 1993, Dr Lee began performing bilateral Bier blocks using bretylium (Figure 2). Ms K felt relief from these treatments for longer and longer periods of time. Today she is relatively comfortable for about a month before she needs to be scheduled for another block. She always has general anesthesia while undergoing the blocks because the pain felt during the blocks is too much for her to bear.

In addition to the Bier blocks, Ms K also receives paravertebral blocks for her legs. (Figure 3) This block sometimes is done bilaterally or can be one-sided, depending on the degree of preoperative pain. Dr Lee will no longer do stellate ganglion blocks on Ms K because she had two episodes post-block where her throat closed and she had extreme difficulty in breathing related to swelling. This occurred when the stellate ganglion block was ipsilateral. During these two occasions, she had to be intubated. On an outpatient basis, Dr Lee will perform trigger point injections (in the minor procedure room) into Ms K's upper back when the burning pain is unbearable.

Today, Ms K is on disability. Medicare is her primary insurance carrier, and the difference is paid by her private insurance company. Her bills have come to approximately \$2 million during the last nine years, but she is fortunate to have excellent coverage. The CRPS1 has thrown her life into a turmoil. She lost her job, people questioned her pain authenticity, and her three young children needed her attention. In addition, Ms K entered into early menopause after she was diagnosed with CRPS1.



Figure 3 • A paravertebral block using C-arm localization.

During the course of the illness, she has had four life ports inserted (due to poor venous access) and removed after she developed septicemia each time. Ms K continues to go to physical therapy three times per week. At times, she needs to use a wheelchair when the pain has increased to the point where she cannot walk. Ms K is very active in the Reflex Sympathetic Dystrophy Society, and she belongs to a support group to help cope with the illness and to mentor newly diagnosed people with CRPS1.

During an interview with Ms K, she stated that she has been seeing a psychiatrist to

cope with this monstrous disease. There is no cure for it. There are days when it is difficult for me to walk, and if there is a lot of walking involved, I have to use a wheelchair. I hate being in it, but there are times that I have no choice. I think it is very important to keep busy and not to lie around feeling sorry for yourself. You have to try and focus your attention on something other than the pain. If you don't, the pain will rule your life. It is very important to take antidepressants and to get counseling to deal with this.

CONCLUSION

Chronic regional pain syndrome, type 1 is a chronic, debilitating condition that can permeate and alter a person's lifestyle and quality of life. The syndrome is cyclic with exacerbations and remissions

occurring in a randomized pattern. It is poorly understood, and available treatment methods do not always result in satisfactory pain relief for patients. Perioperative nurses may care for these patients during procedures to relieve their pain or during procedures unrelated to CRPS1. Understanding the physical and psychological implications of this disease and

its treatments allows nurses to individualize their diagnosis and interventions. ▲

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NOTES

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American National Sleep Debt Soars in the Billions

A recent survey titled "Sleep Census 2000 Poll" shows that Americans are losing approximately six hours of sleep per week according to a June 27, 2000, news release from the National Sleep Foundation. This results in a national sleep debt of approximately 1.2 billion hours per week.

According to the release, census results show

- 62% of census respondents said they have difficulty sleeping,
- 83% responded that they lose at least one hour of sleep per week,
- 90% believe getting better sleep would improve their lives, and
- 70% have felt drowsy while driving.

To address the concerns raised by this survey,

the Sonata Learn to Capture the Moon Tour was developed by the National Sleep Foundation. The tour will be held in an interactive traveling exhibit, and its purpose is to educate the public about the importance of a good night's sleep. Included in the tour are a simulator that allows visitors to experience the effects of insomnia while driving and an opportunity to talk with sleep experts.

New Data Shows Americans Aren't Getting the Sleep They Need—Educational Tour Visiting New York City (*news release, New York: National Sleep Foundation, June 27, 2000*) 1-2. Available from <http://www.newsdesk.com/members/showdoc.htm?file=pr126775.txt>. Accessed 27 June 2000.

AORN Recognized for Community Involvement

The American Society of Association Executives (ASAE) has elected AORN to its Associations Advance America Honor Roll, according to a July 21, 2000, news release from AORN. The honor roll is a national awards competition.

AORN received recognition for building a Habitat for Humanity house. The house was constructed in New Orleans in conjunction with AORN's national Congress, held April 2 to 6, 2000. More than 500 Congress attendees and guests worked with the New

Orleans chapter of Habitat for Humanity on the project.

"The nurses of AORN are the people who care for patients when they are the most vulnerable," said AORN President Patricia C. Seifert, RN, MSN, CNOR, CRNFA, at the April 5, 2000, dedication ceremony. "We also care about community and that is why this project is so important."

AORN Elected to ASAE's Associations Advance America Honor Roll (*news release, Denver: AORN, Inc*) 1.