

## **Chronic Pain: An Overview**

Purpose: The purpose of this course is to provide an overview of chronic pain including its definition, assessment and treatment options.

### Objectives

1. Differentiate between chronic and acute pain
2. List three causes of chronic pain
3. Discuss a method to assess the patient with chronic pain
4. Compare and contrast the different treatment methods for chronic pain
5. Discuss an evaluation method for patients on opioid therapy
6. List three non-drug methods to treat chronic pain

Chronic pain is a common problem that is defined as pain that lasts longer than 4 weeks. Some health care professionals use a time limit to diagnose chronic pain while others suggest that pain that last longer than expected for healing is diagnostic of chronic pain. Chronic pain is significant enough to negatively affect quality of life, well being and/or function (1).

Acute pain is pain that last for a shorter duration of time. It is linked to a specific cause that is treatable. The goal of treating acute pain is to treat the cause and provide medications and non-drug modalities to get through the pain.

Chronic pain is much more challenging to treat. Chronic pain is problem that is difficult to manage and often requires the input of many health care providers.

Pain is a very common reason people seek medical care. Thirty-five percent of Americans have some degree of chronic pain and about 50 million Americans are at least partially disabled because of chronic pain (1).

While race is not correlated with chronic pain, women are more commonly affected than men.

Chronic pain can significantly impact life. It is linked to depression, disability, alcohol and drug abuse, dependency, reduced sex drive, and lack of income.

Chronic pain can be a very frustrated condition to manage. The term “chronic” indicates that the pain may never go away. This may elicit strong emotion from patients. Patients often want and expect their pain to go away and this may not be a realistic goal.

The pathophysiology of chronic pain is complex and not well understood. Experts do not agree upon one theory. One theory suggests that a noxious stimulus leads to a behavior that causes pain. Pain is rewarded and therefore the behavior is reinforced. It is rewarded through many reasons including extra attention from loved ones, more medications, time off of work and money through disability.

Those with psychological conditions are more prone to developing chronic pain. Some conditions linked to chronic pain include: depression, anxiety, somatization and hypochondria.

## **Evaluation**

The first part of the evaluation of the person afflicted with chronic pain is taking a good history. The history can be complex. When taking a history the nurse must keep

an open mind. The history is critical as it directs the rest of the evaluation. Certain factors point to a more serious problem that needs to be evaluated more completely.

An important part of the evaluation of pain is to rule out serious underlying causes of pain. Many causes of chronic pain are benign, but others can be life threatening. These life threatening causes need to be determined.

Red flags that may indicate a serious underlying cause include: those over the age of 50, those with a history of cancer and those who are immunosuppressed. A history of numbness and weakness in the limbs with urinary retention may indicate cauda equina syndrome. This is a neurological disorder that requires surgical intervention.

Many systems need to be evaluated as many causes can lead to chronic pain. It is especially important to evaluate the musculoskeletal system, nervous system, psychological state, gastrointestinal tract, the reproductive system and the urological system.

When evaluating the patient with pain the OLD CARTS mnemonic can be used.

O – Onset of pain

L – Location of pain

D – Duration of pain

C – Characteristic of the pain

A – Associated factors

R – Radiation

T – Timing of the pain

S – Severity of the pain

Knowing when the pain started (onset) is a key feature to understanding the pain.

Was there an initial event that spurred the pain? Did it come on suddenly or slowly?

Where is the pain located? The use of a diagram can be used to help classify where the pain is located. Give the patient a diagram of the body and have the patient shade in where they feel the pain. It is important to know where the pain is maximally placed and how far the pain radiates out.

How long has the pain been present (duration)? Has it been present for hours, days, weeks, months, years? Is there a pattern to it? Has it gotten better and then gotten worse? Is the pain constant?

Describe the pain (character). Terms that are often used to describe the pain include: stabbing, shooting, sharp, dull, cramping, crushing, pounding, numbness, squeezing, cutting, throbbing, pricking, ripping, pressing, cramping, burning, penetrating or splitting.

Are there any associated factors? Are there any nausea, vomiting, headache diarrhea, etc?

Radiation of pain indicates where the pain goes. This is common with pain that is related to nerve pain. This can be described using the diagram where the patient describes the location of his pain.

Timing of pain includes precipitating factors and alleviating factors. Precipitating factors includes what makes the pain worse. Alleviating factors are factors that make the pain better. When rest makes the pain better than damage to the muscle or bones is a consideration.

Using a scale is the best way to determine the severity of the pain. A common scale used is a 0-10 scale. Zero stands for no pain and 10 stands for the worst pain imaginable.

In addition to specific questions about the pain itself, it is important to evaluate the systems that may be causing the pain. This may include an evaluation of the muscles, bones, nerves, gastrointestinal tract, urological system, gynecologic system and a psychological evaluation.

The brain and pain are linked. Many people with chronic pain suffer from depression, anxiety, drug abuse, sleep disturbances, alcohol abuse, and somatization.

Those with psychological problems associated with pain often have many barriers to their recovery. It is important to evaluate these problems as they can contribute to the pain as well as reduce quality of life.

It has been estimated that about 30 percent of patients that use medications to treat pain have improvement at one-year (1). One reason that some of these patients do not achieve pain control is due to psychological issues. It may be chronic depression, anxiety, and incentives for remaining sick.

### **Physical exam**

The physical exam is dependent upon the cause of the pain. For example, a complete musculoskeletal exam or a complete neurological exam should be included in the evaluation of the pain patient. All patients with chronic pain should have a complete psychological evaluation. In addition, the area of the body that the pain is originating from needs to be fully evaluated. For example, if there is stomach pain there should be a complete abdominal exam along with a pelvic exam in a female.

## Common Causes

There are many common causes of chronic pain. Common causes are shown in table 1.

**Table 1: Causes of chronic pain**

Musculoskeletal	Arthritis, disk herniation, Lyme disease, fibromyalgia, fracture, chronic over use injury, mechanical low back pain
Neurological	Cervical radiculopathy, spinal stenosis, postherpetic neuralgia, neuropathy, headache, trigeminal neuralgia
Gastrointestinal	Gastroesophageal reflux , peptic ulcer disease, pancreatitis , constipation, diverticulitis, colitis, inflammatory bowel disease, irritable bowel syndrome
Urological	Cystitis, urinary tract infection, bladder stone, infected prostate
Gynecological	Endometriosis, cysts, adhesions, infection (STD), cervical stenosis
Psychological	Depression, anxiety, sleep disorder, bipolar disease
Other	Heart disease, peripheral vascular disease, cancer

## Evaluation

The workup of the person with chronic pain will be variable depending on the suspected cause of the pain. After the history and physical exam, selected laboratory studies and imaging tests should be considered. Most testing is done to help determine the diagnosis or rule out any potential complications or serious complications.

Routine laboratory tests done often include a complete blood count, urinalysis, and evaluation of drug toxicology.

Imaging tests may include a variety of radiology exams. Tests are ordered too commonly in chronic pain. Some estimates suggest that 33-66 percent of all tests in chronic pain are unnecessary (2). Popular exams include x-rays, computed tomography (CT) and magnetic resonance imaging (MRI).

## **Treatment**

The course of treatment will depend on the cause of the pain. Managing chronic pain often requires coming up with a care plan. The care plan includes coming up with a diagnosis. Setting goals is important as it gives the clinician and patient something to strive for. Examples of goals are: 1) Reduce pain by 50%; 2) Return to work in two weeks. Other parts of the care plan are to improve physical activity, reduce stress, and have a follow up plan.

Therapy is broken down into physical, occupational and recreational therapy. Physical therapy and occupational therapy are probably the two most common modes of therapy. Not only might these methods improve pain, but may help improve function.

Physical therapy works to increase flexibility and strength. It is often a slow process as there is often severe pain during the initiation of therapy. Physical therapy often involves a combination of exercise (strengthening and stretching), manipulation, massage, heat or cold applications, ultrasound and transcutaneous electric nerve stimulation.

Occupational therapy works to help people live as independently as possible. The goals of occupational therapy are to improve function, self-care and recreational activities.

Recreational therapy allows the patient to participate in fun activities that may help decrease pain. People with chronic pain often stop activities that they used to enjoy.

The therapy plan is individualized for each person. The goals of therapy should be to reduce pain but also interrupt the positive gains the person achieves with pain. Each patient should have a goal of achieving normal function, improved quality of life, prevention of relapse and limited use of medications.

The management of pain often requires multiple team members to adequately manage chronic pain. In addition to a primary care provider, the help of a psychologist, psychiatrist and/or a specialist in the area deemed to be causing the pain is often needed.

The use of a pain management specialist is often needed in the treatment of the chronic pain patient. The Institute of Clinical Systems Improvement (3) recommends that expert consultation should be attained in chronic pain but the primary care provider remains in charge of the case with a chronic pain specialist being used in the role of consultant. The pain management specialist should communicate regularly with the primary care provider. The primary care provider should continue to act as the primary prescriber of medications and should continue to see the patient as well as monitor the use of the opioids.

## **Treatment options**

A multiple tier approach is used in the management of chronic pain. The use of medications, therapy, exercise, counseling, stress management, relaxation techniques and biofeedback are often included into the management of chronic pain.

Heat and cold is sometimes used to help with pain. These applications should be used for 20-30 minutes at a time. Most people find heat more effective at managing pain than cold. These modalities should be used cautiously in those with neuropathic pain as there is risk of injury as these patients may not be able to feel the degree of heat or cold on the skin.

Hydrotherapy can be used for those with multiple joint problems. Warm water can help reduce pain and edema.

Transcutaneous electrical nerve stimulation (TENS) units can help with some cases of chronic pain. It has shown good effect in arthritis (1). These work well in those with a specific neuropathic pain as opposed to those with a broad neuropathy (4). These units have an electrode applied by the area of pain. They should not be used during pregnancy, in those with demand-type pacemakers and near the carotid sinus. The most common side effect is skin hypersensitivity (1).

Behavioral techniques can be used help reduce pain. Biofeedback techniques can be helpful. Biofeedback teaches people how to self-regulate certain biological processes that are not typically under physiological control. The use of relaxation techniques such as, progressive muscle relaxation, cognitive therapy and guided imagery may be helpful.

Ultrasound is not helpful on those with pain over large areas. It works well on joint problems and over specific areas of pain.

Exercise should be recommended for all patients with chronic pain. The most effective type of exercise is aerobic exercise. Most patients can manage simple walking programs.

Aerobic exercise should be carried out a minimum of three times a week up to a maximum of everyday. For those who are deconditioned or have significant pain should start conservatively and gradually increase the frequency and duration of exercise. Exercise sessions should be carried out for 20-60 minutes, but sometimes initial exercise sessions will be less than this.

Encourage patients to start low and go slow – just make sure they go. If they are babied too much they may never exercise. Breaking up exercise sessions into two or three sessions a day is as effective as one long session when it comes to aerobic conditioning.

Strength training is also helpful in those with chronic pain, but can be more challenging. Chronic pain patients do best when the initial exercise program is set up by a physical therapist. Exercise is considered too hard if it causes significant soreness or pain after exercise.

## **Medications**

Medications used in the management of pain should control acute exacerbations of pain and help control chronic pain.

Over the counter pain medications such as acetaminophen, ibuprofen, aspirin or naproxen are commonly used in the initial management of pain. If these medications do

not provide relief than other methods to manage pain are considered. This includes the use of stronger pain medication. Ideally the use of narcotic pain medication or barbiturates should be avoided amidst concerns of abuse and dependence.

Non-steroidal anti-inflammatory medications (NSAIDs) include ibuprofen and naproxen. They are availability over the counter. They are well tolerated when used in the short-term. Long-term use, especially in the older individual with multiple medical problems, is more problematic. Long-term use of NSAIDs are associated with gastrointestinal bleeding, kidney damage, increased bleeding, and possibly a higher risk of cardiovascular problems.

NSAIDs have more side effects and need to be used cautiously in certain groups of people, especially when used for extended periods of time. High risk groups include those with kidney disease, heart disease, heart failure, hypertension and GI ulcers or a history of GI bleeding.

Naproxen sodium is another pain/fever reducer that is classified as a NSAID. It is not indicated for the child less than 12 years old and has similar side effects as ibuprofen.

Aspirin, like NSAIDs, may upset the digestive tract and are linked to ulcers. One advantage is that it is inexpensive. Aspirin is not recommended in those who are under 18 as there is a risk of Reye's syndrome.

Acetaminophen (Tylenol) is also used to treat pain. When used for short periods of time it is a very safe drug and it has fewer drug interactions than NSAIDs.

One draw back with this medication is that it lacks anti-inflammatory effects and it may not be as effective if pain is linked to inflammation.

It is toxic in high doses and should be minimized to less than 4 grams a day in the adult. In overdose, acetaminophen has its toxic effect on the liver. Combining acetaminophen and alcohol is not recommended.

Topical products used for the management of pain are available over the counter. Topical agents work directly in the soft tissue and nerves just below the soft tissue. They should be applied no more than 4 times a day. Heating pads should not be applied on top of the rubs.

Topical pain medications are useful for minor pain and sometimes used in combination with other medications for those with chronic pain. They work by counter irritation. This means that they produce a less severe pain to counter the effects of the more severe pain. These medications distract the body from the more severe pain in the muscles, joints or tendons.

These products come in a variety of vehicles including cream, ointments, gels, lotions and patches. Ointments have greater potency, but are greasy and not tolerated as well. Patches do not allow one to rub in the medication, which may be one of the beneficial effects of the medication.

Rubefacients cause the blood vessels to dilate and blood to pool. This is accompanied by an increase in the skin temperature. These products give a feeling of cold or heat over the painful area resulting in a soothing of the underlying pain.

Camphor and menthol products excite the nerves and make them feel cold and then warm which will decrease the pain sensation.

Some products contain a product that is similar to aspirin. These include products such as: Aspercreme, BenGay, Flexall, and Sportscreme.

Capsicum – an ingredient in Cayenne peppers - depletes a substance called substance P in the nerves, which is believed to cause pain. It blocks this chemical, which is believed to deliver pain messages to the brain. This product is helpful in arthritic patients as it can significantly reduce the pain. It is recommended that capsicum is applied while using disposable gloves and it is critical to avoid contact with the mouth, eyes or nose.

Which is the most effective topical product? The answer to this question is not known. No research compares the products. These products are likely not as potent as oral medications, but may provide some relief. They can be used in combination with oral products.

Topical products are associated with few side effects. Irritation to the skin is one of the more common side effects. It may cause the skin to burn and get red. Severe allergic reactions – which present with hives, swelling of the lips, breathing troubles – are rare.

Some topical products are available by prescription. A pharmacist can make products that contain NSAIDs. These may be options for people who cannot take the side effects of oral NSAIDs and have localized pain. These products provide only short-term relief.

Patches with lidocaine (which will be discussed later) are available by prescription and work by blocking the transmission of pain impulses.

### **Antidepressants**

The antidepressants are common drugs used in the management of pain. They work by increasing the action of serotonin and norepinephrine in the central nervous system.

This reduces pain as well as depression and anxiety. Many classes of antidepressants are used including tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs) and others.

Two common TCAs used include amitriptyline (Elavil) and nortriptyline (Pamelor). These medications work by increasing the neurotransmitter norepinephrine and serotonin by inhibiting their uptake in the nerve cells. Common side effects with TCAs are constipation, confusion, urinary retention, weight gain, dry mouth and blurred vision. Cardiac arrhythmias are a potentially deadly side effect and this class should not be used in those with atrial fibrillation or other cardiac condition disturbances.

Amitriptyline and nortriptyline are used for chronic pain. They should not be given to those with a past history of allergy or problems with this class of drugs, they should not be given to those with a history of urinary retention, seizures, glaucoma or cardiac arrhythmia. They should generally be avoided during pregnancy. They should be used cautiously in those with thyroid disease, renal or liver disease. It is not a recommended class of drugs in the elderly as adverse events are more pronounced.

Nortriptyline may be better tolerated than amitriptyline, but may not be as effective in pain management (4).

This class has multiple interactions with other medications. It should not be given within 14 days of taking a monoamine oxidase inhibitor (MAO-I). The levels of cimetidine and quinidine are increased with use along with amitriptyline. TCAs also interact with phenobarbital, alcohol, barbiturates and thyroid medications. TCAs may affect INR levels on those who currently take warfarin.

This class of medication should be started with a low dose and titrated up slowly. Likewise they should be titrated slowly when discontinued.

Trazodone (Serzone) can also be used in some with chronic pain. It is very sedating and is often used as an adjunct to help those who do not sleep well. It can also cause dry mouth, constipation, blurred vision, orthostatic hypotension and can result in mental status changes. It is not an ideal drug for older adults.

Other antidepressants are used for neuropathic pain, including duloxetine (Cymbalta) and venlafaxine (Effexor).

Duloxetine works by inhibiting the reuptake of serotonin and norepinephrine. It is indicated in adults and is dosed up to 60 mg (but is often started lower). It is not given to children. It is indicated for diabetic peripheral neuropathy.

Duloxetine has multiple interactions including interactions with: cimetidine, ciprofloxacin, paroxetine, fluoxetine, tricyclic antidepressants, propafenone and all MAO-Is.

It should not be used in those who have been on a MAO-I in the last 14 days and should not be used in those with uncontrolled narrow-angle glaucoma.

It is a category C drug in pregnancy - safety has not been established. It should not be used in those with significant liver or kidney disease.

Side effects include a mild increase in blood pressure, dry mouth, anorexia, nausea, fatigue and sleepiness.

Venlafaxine (Effexor) is also used off label for neuropathic pain. It interacts with cimetidine, sertraline, fluoxetine, TCAs and some anti-arrhythmic. It should not be

taken within 2 weeks of taking a MAO-I. It is a pregnancy category C and may pose harm to the fetus.

Side effects include increase in blood pressure, GI upset, somnolence, sexual dysfunction, dizziness, strange dreams and possibly weight changes.

The SSRIs are often used in the management of pain. Like other antidepressants they are used in neuropathic pain, but are not as effective as other anti-depressants. While their safety profile is better than the TCAs and have been around longer than the newer antidepressants, they are not first-line drugs for neuropathic pain. Common side effects with this class of drugs are headache, nausea, diarrhea, dizziness, sexual dysfunction and withdrawal reactions. Because of the withdrawal reactions these drugs must be tapered slowly when discontinued.

Fluoxetine (Prozac) was the first medication in this class. Other SSRIs include: sertraline (Zoloft) and paroxetine (Paxil). Generally SSRIs are associated with fewer side effects, drug interactions and considered safer than the TCAs.

There are some potential interactions, which can vary by drug. They can interact with benzodiazepines, warfarin, TCAs, phenytoin, anti-psychotics, cimetidine, and some anti-arrhythmics. It can lead to the serotonin syndrome when it is combined with other drugs that affect the serotonin levels such as tramadol, buspirone, or other SSRIs. They should be used cautiously in those with a history of seizures.

Fluoxetine and sertraline are pregnancy category C and paroxetine is category D.

## **Anticonvulsants**

Anticonvulsants are sometimes used in the treatment of neuropathic pain. These drugs are associated with multiple side effects including sedation and mental impairment.

Gabapentin (Neurontin) is a popular drug used for neuropathic pain. It is indicated in postherpetic neuralgia. It can be given to those over 12-years-old and should be used cautiously in pregnancy because it is category C. This drug is started with a low dose, which is gradually titrated upwards. The use of antacids reduces the levels of gabapentin. This drug should be used cautiously in those with kidney disease. Abrupt discontinuation may result in seizures. Side effects are weight gain, stomach upset, diarrhea, constipation, dizziness, headache, ringing in the ears, anemia, photosensitivity and edema.

Carbamazepine can be used for many nerve pain syndromes including peripheral neuropathy, postherpetic neuralgia, migraine and post stroke pain. It is indicated in trigeminal and glossopharyngeal neuralgia.

Side effects include nausea, vomiting, dizziness, sedation, edema, high or low blood pressure, or arrhythmia.

Pregabalin (Lyrica) is another drug used for neuropathic pain. It is a more selective agent and is easier to titrate than Neurontin. It is approved for postherpetic neuralgia and diabetic peripheral neuropathy. Side effects are not common but include: dizziness, headache, dry mouth, weight gain and somnolence.

It is category C for pregnancy. When the drug is discontinued it should be gradually discontinued.

Side effects may include dizziness or somnolence, weight gain, edema, dizziness, blurred vision and dry mouth.

Other drugs used for neuropathic pain include lamotrigine (Lamictal) and topiramate (Topamax).

## **Opioids**

Opioids are common medications used in the treatment of chronic pain and their use has significantly increased. Their use increased 108% in between the years of 1997 and 2004.

Primary goals of opioid therapy are to reduce pain and improve the function of the patient.

While opioids are medications that can provide significant pain relief because they are potent, they are associated with many problems. Addiction and physical dependence is a common problem. Physical dependence means that the drug leads to withdrawal when they are stopped.

Opioids are commonly used in the management of pain that is not responsive to other treatments. They are not recommended for non-specific back pain, fibromyalgia and migraine.

As a class, opioids are linked to many side effects. Constipation is common with opioid use and it often needs to be treated with medications to stimulate the bowels. Other common side effects include: sedation, nausea, vomiting, rash, hypotension, dry mouth, and respiratory depression/arrest.

For health care providers who use opioids to treat pain they need to completely evaluate patients and provide good documentation to justify opioid use. It is critical to

keep good records and to assess risk. One tool often used in the management of opioid use is the DIRE score.

The overuse of opioids is commonplace and it is important for health care providers to have good documentation about the appropriateness of their use. Without proper documentation the clinician is at risk.

The DIRE score looks at four factors which are given a numeric value and then the four scores are added up. A score of 7-13 indicates that the person is not a suitable candidate for long-term opioid medication while a score of 14 to 21 indicates that the person is a candidate.

The D stands for diagnosis. Certain diagnoses are less likely to benefit from opioid use. Fibromyalgia and migraine headaches do not respond as well to opioid use. The I stands for intractability. Patients who have not been successful at managing pain with other modalities and their pain has been intractable are more likely to benefit from opioid use. The R stands for risk factors. Certain factors – history of alcohol use, poor social support and personality disorder – are linked to problems with opioid therapy. The E stands for efficacy.

Extreme caution needs to be instituted when considering prescribing opioid medications to patients with a history of drug abuse. A few questions can be asked to tease out who is at risk for addiction.

1. Are you concerned about your current use of other medications, drugs or alcohol?
2. Has a close family member ever expressed concern about your use of medications, drugs or alcohol?

When prescribing opioid therapy it is important to come up with a plan between patient and provider. The patients should agree to not misuse opioids by following certain rules.

1. Get medications from one pharmacy
2. Agree not to seek pain medications from other providers
3. An understanding that the opioid therapy will be discontinued if the patient misuses the drugs or participates in illegal activities.

Complex cases often require the input of an addiction specialist. Individuals who have a history of drug misuse, uncontrolled pain, patients who do not follow through on therapy or counseling sessions, poor compliance, risky behaviors or poor social support may require the management of an addiction specialist.

Opioids should be stopped when they are not helping either with pain control or not leading to an improvement in function. When the medications are being misused, they should also be discontinued.

When discontinuing opioids it must be done carefully. The dose should be reduced 10-25% every week. Primary care providers who are unable to do this on their own often require the help of an addition specialist or detoxification facility.

Oxycodone (Oxycontin) is a long acting narcotic medication. It is given every 12 hours and should be titrated up gradually. It is generally recommend for those over the age of 12.

This drug can interact with phenothiazines, TCAs and any drug that affects the central nervous system.

They should not be used in those with an abnormal intracranial pressure, poor respiratory function.

Fentanyl (Duragesic) is a potent narcotic medication. It is often used for sedation. It comes as a patch to help patients achieve pain control. Other common opioid pain medications include morphine sulfate, propoxyphene, meperidine (Demerol), and hydromorphone (Dilaudid).

### **Other pain medications**

A handful of other pain medications are used in the management of pain.

Intravenous lidocaine is sometimes used for neuropathic pain that is not responsive to other treatments. It can also be applied as a patch (Lidoderm patch) for local pain relief in conditions such as postherpetic neuralgia or other pain conditions.

Clonidine, which is used to treat high blood pressure, can sometimes help with postherpetic neuralgia and other pain syndromes. It is associated with hypotension and dizziness.

Muscle relaxants, such as tizanidine and baclofen, are sometimes used in those who have pain due to stroke, traumatic brain injury or spinal cord injury. It helps the muscle relax and helps relieve spasms and spasticity. Side effects include low blood pressure, sedation and liver toxicity.

### **Surgery**

Surgical intervention can be tried for chronic pain. It is often tried after other options have failed. Common surgical interventions include nerve blocks, spinal cord stimulation and medication pumps.

Nerve blocks are usually sympathetic blocks. This technique prevents the flow of pain. Sympathectomy involves severing the nerve causing the problem and therefore stops or reduces the pain. This procedure is not commonly done as it can lead to burning, numbness and/or sweating.

Spinal cord stimulation is often used for nerve pain that has not responded to other treatments. An implanted device sends a small electrical current to the spinal cord. It can also be used for those with radicular pain.

Giving drugs through the intrathecal system involves putting drugs into the spinal fluid. The most common drugs used in intrathecal pumps include morphine or ziconotide (Prialt).

### **Dealing with the patient.**

Those with chronic pain can be challenging patients. Keeping an open mind when dealing with patients is important for all health care professionals. A holistic look at the patient is a critical aspect of pain management. The patient must be evaluated not only for the physical cause of the pain, but any psychological, spiritual or cultural issues that may be contributing to the pain. The multi-faceted approach is best accomplished by using a team approach in the management of the patient.

Treatment should involve more than just medications, make sure therapy, counseling, and non-drug methods to manage pain are included in the treatment plan. If possible always try to encourage chronic pain patients to involve themselves in an exercise plan.

Some with chronic pain have an exaggerated pain response. Some appear to be in a lot more pain than you may think that they are. It is important to keep an open mind and take what they say seriously.

It is important to listen empathetically to the patient. Patients with chronic pain may have a history of health care providers not taking them seriously.

Remember to set goals. Make sure goals are realistic and measurable. Goals should focus on not only reducing pain, but also improving function.

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