

GUIDELINES FOR TREATMENT OF CANCER PAIN

The Revised Pocket Edition of the
Final Report of the Texas Cancer
Council's Workgroup on Pain Control
in Cancer Patients

1997

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GUIDELINES FOR TREATMENT OF PAIN IN CANCER PATIENTS

INTRODUCTION

The original Texas Cancer Council's Workgroup On Pain Control In Cancer Patients was composed of C. Stratton Hill, Jr., M.D., Chairman, *Houston*, Everett G. Heinze, M.D., *Austin*, R. Wayne Hurt, M.D., *Houston*, R. Prithvi Raj, M.D., *Lubbock*, Becky O'Shea, R.N., M.S., *Dallas*, Raul Rodriguez, M.D., *McAllen*, and William Willis, M.D., Ph.D., *Galveston*. The results of their efforts produced *Guidelines for the Treatment of Cancer Pain* in two formats, a comprehensive volume containing a wide variety of pain treatment approaches, including invasive techniques, and this pocket edition, limited primarily to the pharmacological approach to pain treatment. The pocket edition proved by far to be the more popular format. For this reason this format is being brought up to date. This updated version was done by members of The Texas Cancer Pain Initiative and once again funded by the Texas Cancer Council. Members responsible for this version are Sharon Weinstein, M.D., Deborah Thorpe, Ph.D, RN, Mary Cunningham, MS, RN, and C. Stratton Hill, Jr., M.D.

Although the principles of assessing and treating pain have not changed since the first edition of this book, technological advances with oral, transdermal and other delivery systems using different formulations of drugs are now available. Additionally, some of the old sections have been expanded to include more details. Legislative and regulatory changes have been accomplished. The Intractable Pain Treatment Act has been amended to permit the prescribing of opioids to patients who are currently substance abusers or have a history of substance abuse if they develop acute or chronic painful medical conditions. The two most common conditions encountered in this setting are cancer and AIDS. The Texas State Board of Medical Examiners has adopted rules that serve as guidelines for the standard of practice for prescribing opioids. Last, but not least, the 75th Texas Legislature passed a law that will substitute electronic monitoring of Schedule II prescriptions for the current triplicate prescription program! Eventually Schedule II drugs can be written on ordinary

prescriptions used for any other type drug.

Our premise continues to be that all cancer pain can be controlled with means currently available to the general medical community. Control does not always mean the complete absence of pain. Endurance of some pain may be preferable to complete relief if undesirable side effects of pain treatment are incapacitating and cannot be ameliorated by appropriate treatment or do not spontaneously disappear. However our goal is to strive to achieve, by using these guidelines, complete pain relief and return to a normal, or near normal, functional state, with limitations imposed only by the disease process itself. The emphasis in selecting treatment modalities is on simplicity and cost effectiveness. Improved technological advances in drug delivery, which often are expensive, should be used if there is a specific indication for them, however the majority of patients can be managed with simple methods.

Despite increased educational efforts, particularly at the post-graduate level, to make all health care professionals aware of the under treatment of all types of pain, and provide lectures, seminars, and conferences outlining proper treatment methods, a significant number of Texans continue to experience needless pain. This problem will increase as a public health issue because a higher percentage of the population (both Texas and the U.S.) is living into an older age group where the prevalence of chronic painful medical conditions is highest. This population is very concerned about the quality of life they will have. If pain, and other distressing symptoms, deprive them of an acceptable quality of life and they are denied access to drugs and other treatment modalities that can relieve these symptoms they will seek means to end their plight. The US Supreme Court has ruled that there is no constitutional right to physician-assisted suicide. This will put pressure on state legislators to make physician-assisted suicide legal. There is therefore an urgent need to improve pain treatment in Texas.

A major cause of physicians reluctance to prescribe strong opioids (narcotics) continues to be fear of sanctions against them by the Texas State Board of Medical Examiners (TSBME) and the state and federal drug enforcement agencies. Any physician who is charged with violating the Medical Practice Act, and his/her attorney, should be aware of Chapter 170, Authority of a Physician to Prescribe for the Treatment of Pain, of the TSBME rules. These provide guidelines for the standard of practice for the use of these drugs. They also describe the conditions the TSBME will

use to judge the physicians conduct. *No agreed settlement with the TSBME should be entered into until these rules are reviewed.*

ETIOLOGY OF PAIN

The causes of cancer pain fall into five categories: 1) direct tumor involvement of bone, nerves, viscera, or soft tissue (accounting for pain in the majority of patients); 2) changes in body structure due to the tumor or its treatment, usually resulting in muscle spasm, muscle imbalance, or structural body changes; 3) anticancer therapy-surgery, chemotherapy, radiation therapy, immunotherapy, and biological response modifiers (often this pain is neuropathic, resulting from nerve damage caused by the treatment); 4) causes unrelated to cancer or its therapy, usually pre-existing painful medical conditions such as rheumatoid arthritis, diabetic neuropathy, etc.; and 5) no cause that can be immediately established. Usually a nociceptive cause, most often undetected progression of disease is eventually found in patients in category 5.

TYPES OF PAIN

Treatment modalities are dictated not only by the cause of pain but also by the type of pain. Pain can be divided into two broad categories: nociceptive and neuropathic (non-nociceptive). These types of pain differ in their causes, symptoms, and responses to analgesics.

Nociceptive or somatic pain results from direct stimulation of nociceptive, intact (uninjured) afferent nerve endings. Descriptors for this type of pain are usually “dull,” “sharp,” and/or “aching,” or a combination of these, and the intensity of the pain varies from mild to severe. In general, somatic pain can be well controlled if the cause of the stimulation can be removed or otherwise treated (surgery, radiation therapy, chemotherapy, etc.), or somatic pain can be treated with analgesics. Response to analgesics is usually good.

Neuropathic pain, on the other hand, is caused by nervous system dysfunction rather than stimulation of intact afferent nerve endings. It is characterized by burning, shooting, and tingling pain, associated with allodynia, hyperpathia, paresthasias and dysesthasias. The most frequent causes of neuropathic pain in cancer patients are tumor or treatment-related nerve damage, acute herpes zoster (shingles), post-herpetic neuralgia, and phantom limb pain. Neuropathic pain may be accompanied by sympathetic nervous system dysfunction, e.g., causalgia or reflex sympathetic dystrophy, currently termed Complex Regional Pain Syndrome. Compared with nociceptive pain, neuropathic pain usually requires more complex pharmacotherapy (See Table I).

TABLE I

Clinical Features of Neuropathic Pain

Pain that occurs in the absence of a detectable, ongoing tissue-damaging process

Abnormal or unfamiliar unpleasant sensations (dysesthasias), frequently having a burning and/or electrical quality

Delay in onset after precipitating injury

Pain that is felt in region of sensory deficit

Paroxysmal, brief shooting or stabbing component

Mild stimuli painful (allodynia)

Pronounced summation and after-reaction with repetitive stimuli (hyperpathia)

Adopted from: Fields, H.L.: Pain, p. 134. New, York: McGraw-Hill, 1987.

ASSESSMENT OF PAIN

1. Both Qualitative and quantitative assessment of the patient's report of pain is essential. The qualitative assessment involves getting a description of the location, duration, and characteristics of the pain (eg., sharp, dull, burning) as well as factors affecting the pain. Ask the patient what factors make the pain better or worse (eg., medicine, rest, walking, lying down).

The quantitative assessment involves determining the intensity of the pain. Explain to the patient how to quantitate his or her pain on a rating scale, either numeric or visual analogue, to obtain some idea of the intensity of the pain. The scale chosen should be one that the patient is comfortable using. The same scale should be used for future comparisons. (See examples of pain assessment tools in Appendix A, page 61.)

Ask the patient to indicate ratings for the worst, least, and average or usual levels of pain in addition to the level of pain present during the examination to get an appreciation of the range of the pain experience. Remember that there are no "norms" to these pain scales and they cannot be used to compare one patient's report of pain with another patient. For example, if a patient rates his pain as 6 on a scale of 0 to 10, one cannot conclude with any validity that he/she has more pain than one who rates his pain as 4 or 5, even if the cause of the pain is similar.

The true value of these scales is in tracking the pain over time and evaluating changes against therapies initiated. For most patients pain ratings of 1 to 3 on a 0 to 10 scale are indicative of mild pain, ratings of 4 to 5 are indicative of moderate pain, while 6 or greater represent severe pain. However, it must be recognized that patients may use these scales from varying perspectives and that the pain rating should be considered in the context of the impact that pain has on daily activities and quality of life. It is also helpful to ascertain from the patient what pain level is acceptable or tolerable so both the patient and care giver have a mutual understanding of the goals of care.

2. Assessment of pain in children needs to be tailored to the developmental level and personality of the child. The faces scale can be effective in children as young as age 3 (See Appendix A). It may also be useful in

adults with language or other communication barriers if it is interpreted and they can point to the face that represents the intensity of the pain. The parents or other family members can provide valuable information based on their closer understanding of their child's response to pain and other distressful situations. Some children may become withdrawn in response to pain, especially when it is severe. Other children may respond with restlessness or regressive behavior. In pre-verbal children (or adults with cognitive or communication impairments) behavioral observation may be the primary means of assessing pain and response to treatment. If the care giver is unsure whether a behavior is indicative of pain or not, if there is reason to suspect pain, an analgesic trial can be diagnostic as well as therapeutic.

3. The patient's report of pain must be believed. Pain is a subjective experience: no test can prove its presence or absence. A subjective experience, however, is no less real than an objective one.

4. Assessment of pain when opioid (narcotic) analgesics are required for pain control, requires that the physician, and other health care professionals guard against judging a patient's behavior as drug-seeking. CULTURAL INFLUENCES AND BIASES ARE, UNFORTUNATELY, EXTREMELY INFLUENTIAL IN THIS REGARD. Lack of response to pain treatment is almost always the result of an inadequate dose and unrealistic expectations of duration of action, assuming one is dealing with opioid responsive pain. Such patients may indeed be "clock watchers," because they are in unrelieved misery, but they are more appropriately viewed as relief seekers rather than drug seekers. (See Opioid Pseudoaddiction, page 33.)

5. Perform a physical examination. Special attention should be directed to establishing whether muscle spasm, muscle imbalance, scoliosis, dysesthesia, other structural changes, or neurological deficits are present.

6. Review all pertinent diagnostic studies (all imaging procedures and laboratory studies).

7. Take a careful drug history, including recreational use of analgesic drugs. This must be done in a non-threatening, non-judgmental way.

8. Reassure the patient that his or her pain can be controlled.

A realistic time frame should be provided to the patient and family. Neuropathic pain will require longer to respond than nociceptive pain and may require multiple modalities to achieve satisfactory control.

9. Ask about other symptoms and/or side effects the patient may be experiencing (e.g., nausea, vomiting, constipation, sedation, fatigue).

10. Reassess outcome of treatment as necessary. Follow-up visits should be frequent until stable pain relief is achieved. Assess side effects of treatment and their influence on treatment success or failure; e.g., constipation may determine the difference between success or failure of treatment with oral analgesics because relief of constipation often relieves nausea and vomiting.

DRUG TREATMENT

General

Opioid analgesics are the mainstay of pain treatment for cancer patients for whom tumor treatment has failed. Highly successful treatment of nociceptive or somatic pain is possible with the opioid analgesic drugs currently available. These drugs are less successful in treating neuropathic pain. This distinction is important because in the former situation, when opioids are used, no *ceiling effect* will limit the dose required to provide relief, whereas in the latter situation, escalating the dose after some relief has been obtained may cause undesirable side-effects rather than additional pain relief.

Attitudes

Attitudes of health care providers are perhaps the most influential force in determining whether a cancer patient in pain is adequately relieved of his or her pain. Cultural forces almost universally influence the physician to perceive a patient as a substance abuser who makes atypical claims

about their pain experience or about his or her response to treatment. *The patient's report of pain must be believed!*

Physicians are also influenced by the prescribing practices of their peers to the extent that pharmacological knowledge is subordinated to the practice customary in the community; i.e., if customary prescribing results in under treatment, but is the community standard, it is likely physicians will adopt the community standard making under treatment of pain the norm. If adequate pain treatment is to be the norm, this vicious cycle must be broken. Proper pharmacological prescribing must replace customary prescribing. In customary prescribing outcome is ignored.

Knowledge Deficits

Information about dosing for opioid drugs contained in standard pharmacological textbooks was obtained primarily from studies of single doses of opioids given to patients who had post-operative pain. No long-term studies of the use of opioids were done. Consequently, information about dosing is limited to this population of patients. The pharmacodynamic (what the drugs do to the body) effects were studied in addict volunteers at federal penal institutions. None of the subjects had pain. Such studies would be analogist to studying insulin requirements and metabolism in subjects who did not have diabetes. New studies on pain patients, such as cancer patients, taking opioids long-term for pain reveal that significant differences between knowledge gained in the old studies and knowledge gain in the new studies. This difference shows up in critical areas: 1) pain is a natural antagonist to the analgesic effect of opioids making it necessary to provide a dose of analgesic that will overcome this antagonism. This is the rationale for, *the proper dose is whatever it takes to relieve the pain*, as the dictum for guiding prescribing analgesic drugs. 2) pain is also a natural antagonist to respiratory depression. Therefore, respiratory depression in pain patients is extremely rare, no matter what the dose of opioid required for the relief of pain. This is especially true in patients who have been taking opioids over a significant time period and are tolerant to opioids, and 3) psychological dependence (addiction) in cancer patients in pain who have no previous history of drug abuse rarely become psychologically dependent on opioids given for pain.

The facts about biotransformation of drugs (pharmacokinetics - what the body does to the drug before it gets to the site of action of the drug) are often not known, misunderstood, or ignored in prescribing opioids. Therefore, equianalgesic doses between oral and parenteral opioids are not prescribed. Oral medication is subject to the “first pass effect” as the absorbed dose is reduced by its first pass through the liver, whereas parenteral medication is delivered to the central nervous system without this reduction. Oral doses must be adjusted upward to compensate for this reduction in the quantity delivered to the opioid binding sites. The perception that oral doses are *larger* than parenteral doses is merely an illusion.

Regulations Regarding Prescribing Controlled Drugs in Texas

Certain drugs used to treat pain and side-effects of these drugs are scheduled under both the federal and State of Texas Controlled Substance Acts. This means their use is monitored and scrutinized by government agencies responsible for monitoring these drugs, more closely than non-scheduled drugs to prevent diversion to illegal use. Unfortunately, there is no common understanding between these agencies and physicians about what the standard of practice is for their use. This confusion makes physicians reluctant to prescribe them and accounts for one of the major reasons patients get inadequate treatment of their pain.

Texas has made significant strides since 1989 to clarify the confusion about using opioids, and other controlled substances, for pain treatment and encouraging their use. In 1989 the legislature passed the Intractable Pain Treatment Act (IPTA) (Article 4495c V.T.C.A.). The major features of the Act are: 1) defines intractable pain, 2) permits the physician to prescribe controlled substances after he/she makes a diagnosis of intractable pain without regard to the etiology of the pain (malignant or benign), 3) prohibits a hospital or other health care facility from interfering with a physician’s prescribing these drugs for an appropriately diagnosed intractable pain condition, and 4) prohibits the Texas State Board of Medical Examiners from imposing sanctions on physicians who prescribe these drugs to treat intractable pain. In 1997 this Act was amended to

permit the prescribing of opioids to current substance abusers (addicts) or individuals who have a history of drug abuse who develop acute or chronic painful medical conditions. Two major categories of diseases where this situation may occur are cancer and AIDS patients. (See Appendix C and D, The Intractable Pain Treatment Act and its amendment, pages 65-69)

To further clarify the standards of practice for the use of Schedule II drugs for pain treatment, the Texas State Board of Medical Examiners (board) adopted rules in 1995 regarding their use. The significance of the board adopting rules is that rules have the same force as law. An oversimplification of them is that any use of opioids is permissible so long as they are prescribed for a legitimate medical purpose during the usual course of medical practice and there is adequate documentation of the rationale for their use. (See Appendix E, Chapter 170. Authority of Physician to Prescribe for the Treatment of Pain, page 70)

ANALGESIC DRUGS FOR CANCER PAIN TREATMENT

General Principles

Once a decision has been made to use analgesic medications for cancer pain management, the following general principles should be employed.

1. Analgesic Potency: Select the potency of the analgesic medication based on the patient's self report of pain intensity {i.e., 0-10 scale} and the impact of pain on functional status. With reports of mild to moderate pain { 6/10 } which minimally interferes with activities of daily living, prescribe analgesics such as aspirin {ASA}, acetaminophen {APAP} or a nonsteroidal antiinflammatory {NSAID}. Weak opioids such as codeine or hydrocodone are appropriate therapies for pain of mild to moderate intensity that moderately restricts activities of daily living. Several combination medications are available such as APAP + hydrocodone and APAP + codeine}. If the patient reports severe pain, a strong opioid should be given at the onset of pain treatment. With the exception of oxycodone none of the strong opioid analgesics are combined with APAP or aspirin.

Caution should be exercised in increasing the number of tablets of combination products given because toxic doses of the non-opioid are rapidly reached.

Early reassessment of the effectiveness of the choice of opioid should be done so that unrelieved pain is not unnecessarily prolonged. There should be no reluctance to use strong opioids such as morphine, hydromorphone (Dilaudid), levorphanol tartrate (Levo-Dromoran) or methadone. Merperidine (Demerol) is not recommended for chronic pain treatment.

2. Route of Administration: Always administer analgesic medications orally unless this route is unavailable or unreliable (e.g., vomiting, dysphagia, intestinal obstruction, malabsorption syndromes). Pain can be controlled with oral medications. Equal efficacy can be achieved with oral medications as with parenteral medications provided equianalgesic doses between oral and parenteral medications are used. (See Tables III, IV, pages 23-26). The benefits of oral medications as compared to parenteral administration include convenience, lower costs, elimination of necessity of IV-IM-SQ injections and enhanced patient participation in pain control.

For patients who cannot take medications orally, there are rectal, transdermal, and intraspinal formulations of strong opioids available. Again, simplicity should be the key word in selecting the appropriate route.

3. Scheduled Medication Intervals versus P.R.N: Prescribe analgesics on a scheduled, around-the-clock basis rather than on an “as needed” or “pro re nata” (p.r.n.) basis. Studies have shown that patients require less medication when it is prescribed on a scheduled basis rather than on a p.r.n. basis. The physician should, therefore, instruct the patient to be flexible in his or her taking of the medication and encourage taking the amount required for pain relief regardless of time restrictions. IT SHOULD BE REMEMBERED THAT PAIN IS A NATURAL ANTAGONIST TO THE ANALGESIC AND RESPIRATORY DEPRESSANT EFFECTS OF OPIATES AND THAT OVERDOSE IS UNLIKELY AS LONG AS A PATIENT HAS PAIN. If a patient requires medication more frequently than prescribed, this usually indicates the prescribed dose is inadequate to control the pain for the prescribed interval. Upward adjustment in the dose should be made when this condition occurs. Emphasis is on controlling the pain, i.e., preventing its recurrence.

4. Prevention and Treatment of Side Effects: Anticipate and aggressively treat side effects before they occur. {See section on SIDE EFFECTS, PAGE 27}

5. Evaluation of Response: Systematically review outcomes of analgesic therapy. The frequency of evaluation depends upon patient characteristics but general principles include reevaluation: 1) at regular intervals after initiating therapies and after changes in therapies; 2) with each new report of pain and 3) at 15-30 minutes after parenteral administration and 1 hour after oral administration during rapid titration of the dose or with unstable pain. If the pain is not relieved by the dose prescribed, increase the dose by 50-75%, and an increase of 100% may be necessary. Continue to increase the dose until the pain is relieved, intolerable and or untreatable side effects occur or it is determined that opioids alone are ineffective. This maneuver is the pharmacological principle of “dosing to effect”. It is effective because there is no “ceiling effect” of the dose with opioids, especially in the treatment of nonceptive pain. If pain is relieved by opioids but intolerable side effects develop {e.g., somnolence, impairment of thinking or ability to concentrate}, consider changing to an equal potent opioid, changing the route or adding an adjuvant medication. Opioids have differing opioid binding site affinities; consequently, changing to an opioid with a different binding profile may allow for a reduction in dose due to incomplete cross tolerance. Changing routes {e.g., parenteral to intraspinal} will decrease total dose requirements because of the differences in pharmacokinetics. If it is determined that opioids provide only partial relief, consider the use of adjuvant therapies. The selection of adjuvant therapies depends on the etiology of the pain. Tricyclic antidepressants and anticonvulsants are often used in the treatment of neuropathic pain {SEE ADJUVANT THERAPIES, Page 34}. Psychological factors {e.g., depression, anxiety, preexisting psychiatric diagnoses} may play a role in pain perception and response. A psychological evaluation may be warranted.

6. Placebos: Do not use placebos to evaluate a patient’s pain report. Responses to placebos defy interpretation. It is not known why about one third of patients with acute tissue damage (nociceptive) pain (e.g., from fractures and other trauma) will respond to placebos. Responses may be due to activation of the endogenous opiate system. Not only can nothing be concluded from a response to a placebo, but use of placebos undermines the doctor/patient relationship by adding an element of

distrust. The physician should be able to determine whether a patient is a drug seeker or abuser by more positive, straightforward means.

Analgesic Medications

Non-narcotic analgesics

Nonsteroidal anti-inflammatory drugs (NSAIDs)- aspirin and other NSAIDs-are the mainstay of initial drug treatment for mild pain. They should be taken on a prescribed schedule. Because patients are accustomed to taking aspirin sporadically for headaches and other minor pains, it must be emphasized that, for cancer pain control, the medication is to be taken regularly, whether pain is present or not, at the prescribed time.

A wide variety of NSAIDs are commercially available. (See Table X - Nonsteroidal Anti-Inflammatory Agents, page 57.) All have antipyretic and anti-inflammatory activity, and all except the non-acetylated salicylates, e.g., choline magnesium trisalicylate (Trilisate), interfere with platelet aggregation and therefore prolong bleeding time. This effect on platelets limits the use of all NSAIDs in thrombocytopenic patients. The antipyretic effect limits the use of these drugs in patients who are neutropenic because an infection could be masked. Side effects of NSAIDs include gastrointestinal irritation and renal insufficiency.

Aspirin and other NSAIDs are frequently combined in fixed doses with weak opiates. Combining NSAIDs with opiates is a rational approach to pain management because the two groups of drugs have different mechanisms of action. Studies have shown that the augmented effect is more than merely the sum of the analgesic potencies of the two drugs. CAUTION: When increasing the dose of these combination drugs, be careful to remember the presence of the aspirin or other NSAID because toxic doses of this component of the drug can unwittingly occur and cause severe gastric irritation and/or bleeding.

NSAIDs are particularly useful for treating pain from bone metastases. When pain from bone metastasis is moderate to severe, it often is necessary to use an NSAID/opiate combination. Some soft tissue metastases have surrounding inflammation that also responds well to NSAIDs.

Acetaminophen has analgesic and antipyretic but weak anti-inflammatory activity. It has no adverse effect on platelets and does not irritate the gastro-intestinal tract. Hepatic toxicity occurs when high doses are used and in patients with a history of alcohol abuse. Acetaminophen is also frequently used in combination with weak opiates. **When increasing the dose of drugs, i.e., increasing the number of tablets per dose combining opiates with acetaminophen, one must be careful not to unwittingly reach a toxic dose of acetaminophen.**

Opioid Analgesics

Opioids are the primary analgesics used in the management of moderate to severe pain. Opioid binding to specific receptors within and outside the CNS produces analgesia. Opioid analgesics are categorized as agonist, partial agonists or mixed agonist-antagonists depending upon binding affinity, specific receptor binding and activity at the specific receptor (See Tables VII and VIII, p. 48-53).

Opioid Agonists

1. *Morphine sulfate* {immediate release} is a strong, short-acting (3-4 hours) opiate agonist. It is the drug of choice for severe cancer pain occurring at any stage of a patient's disease. Morphine should not be reserved only for terminal care; it is safe to use over prolonged periods if necessary. The preferred route of administration is oral. Orally administered morphine provides pain relief comparable to that of parenterally administered morphine which can be achieved if one remembers the 3:1 oral-to-parenteral ratio for dosing. The oral dose must be three times the parenteral one because the oral dose is subject to the "first pass" effect in the liver. The "larger" oral dose is illusory because of the phenomenon of biotransformation explained earlier. The same dose ultimately reaches the opiate-binding sites in the central nervous system with either the oral or parenteral route. (See Table III - Method for Converting Other Narcotics to Equianalgesic Dose of Morphine, page 23.)

Controlled-release morphine - Morphine is now available in tablets that release the drug over 8-24 hours. This obviates taking the immediate release form every 3-4 hours. There are two major advantages to this long

duration. Probably most important, the patient is allowed to sleep for longer periods uninterrupted by pain or by waking up to take pain medication. Regular or immediate-release morphine should always be ordered concomitantly on a p.r.n. basis (one of the rare, justifiable occasions to use p.r.n. orders) with controlled-release morphine to cover episodes of “breakthrough” pain that might occur during the interval covered by the controlled-release morphine. **THESE TABLETS CANNOT BE CUT OR CRUSHED OR ALTERED IN ANY WAY WITHOUT DESTROYING THE LONG-ACTING FEATURE OF THEM.**

2. *Hydromorphone hydrochloride* (Dilaudid Hydrochloride) - a strong, short-acting (3-4 hours) opioid agonist. As with morphine, the oral route is preferable. The oral-to-parenteral dose ratio is 5:1.

3. *Methadone* (Dolophine) is a strong opioid agonist with analgesic activity for 4-6 hours following a single dose. This longer duration of action is related to its long plasma half life. The plasma half life varies between 13-36 hours, and although the analgesic activity does not last that long, the drug accumulates in the blood with repeated dosing, producing excessive sedation if the dose is not properly adjusted. Because of its long plasma half life, adequate pain relief may be difficult to achieve initially with methadone alone and rapid dose adjustments are more difficult. The-oral to-parenteral dose ratio is 2:1.

4. *Levorphanol tartrate* (Levo- Dromoran) is a strong opioid agonist with analgesic activity for 4-6 hours. Its prolonged analgesic activity is due to its long half life (though not as long as that of methadone) and lipophilic character. Its activity is similar to methadone’s. The oral-to-parenteral dose ratio is 2:1.

5. *Fentanyl* is a strong very short-acting {1 hour} opioid agonist. Given the short duration of action, continuous pain requires continuous administration. In addition to parenteral and intraspinal formulations, fentanyl is also available in a transdermal delivery system {Duragesic®}. (colloquially referred to as “the patch.”) Fentanyl doses above 25 ug/hr should not be used in opioid-naive patients. Transmucosal fentanyl is available for procedure related pain and pre-anesthetic induction in children. A lozenge impregnated with fentanyl attached to a stick is available for the treatment of breakthrough pain. This can be used in conjunction

with the Duragesic system. It is usually desirable to establish pain control with immediate release morphine and then switch to the transdermal system for convenience. Standard equianalgesic dosing conversion tables report that morphine 10 mg IV is equipotent to fentanyl 100 ug IV. {For specific information pertaining to clinical use of Duragesic®, see Table VIII - Severe Pain: Strong Opioids, Page 50.

6. *Meperidine hydrochloride* (Demerol Hydrochloride) is a strong, very short-acting (2-3 hours) opioid agonist. It is not recommended for treatment of chronic pain because it has a short duration of action and because repeated doses may cause central nervous system (CNS) toxicity (tremors, confusion, and/or seizures) as a result of accumulation of the metabolite normeperidine, which has a longer plasma half life than the parent meperidine. This accumulation is especially a problem in patients with impaired renal function and in those receiving large parenteral doses. The oral-to-parenteral dose ratio is 4:1.

7. *Oxymorphone hydrochloride* (Numorphan Hydrochloride) is a strong, short-acting (3-4 hours) opioid agonist with characteristics similar to those of morphine.

8. *Oxycodone hydrochloride* is a strong, short-acting (3-4 hours) opioid agonist. It is commonly combined with aspirin or acetaminophen. Oxycodone is available only for oral administration in both tablet and liquid form. When used in combination care should be taken to avoid toxic doses of the non-opioid

Oxycodone controlled release {Oxycontin®} is available in tablets releasing oxycodone over an 8-12 hour period. See Morphine controlled release above. **AS WITH CONTROLLED RELEASE MORPHINE TABLETS, OXYCONTIN TABLETS CANNOT BE CRUSHED, DIVIDED, OR ALTERED IN ANY WAY WITHOUT DESTROYING THE CONTROLLED RELEASE FEATURE OF THEM.**

9. *Hydrocodone bitartrate* (Vicodin, Lortab) is a moderately strong, short-acting (3-4 hours) opioid agonist. The hydrocodone to morphine po conversion ratio is not well established, but thought to be approximately 1.0: 0.15. Plain hydrocodone is not available; all preparations are combined with APAP, ASA or NSAID. Calculation of the total daily dose of APAP,

ASA or NSAID administered in combination with hydrocodone is critical to assure that the maximum daily dose is not exceeded. For example, several combinations contain 750mgs of APAP per tablet. Administration of 8 daily tablets containing APAP 750 mg reaches the maximum daily APAP dose range of 4-6g/24 hours. Frequent dosing {e.g., 2 tabs q 2 hrs} will provide a toxic dose of 18 grams of APAP. If the maximal dose of ASA or APAP is exceeded in order to provide adequate opioid, change to more potent opioid agonist. The ASA and APAP can be continued as single agents within the recommended dosing range.

10. **Codeine** is a weak, short-acting (3-4 hours) opioid agonist. The codeine to morphine po conversion ratio is approximately 1.0:0.15. Codeine is available as a single agent although the typical oral formulation administered is in combination with ASA or APAP. Prescribers are cautioned to be aware of the total daily dose of APAP or ASA. The oral-to-parenteral dose ratio is 2:1.

11. **Propoxyphene hydrochloride** {Darvon®} is a weak, short-acting (3-4 hours) opioid agonist. The propoxyphene to morphine po conversion ratio is approximately 1.0:0.15. Propoxyphene is as available as a single agent or in combination with ASA or APAP. Its metabolite, norpropoxyphene, can accumulate with repeated dosing and result in CNS toxicity.

Mixed agonist-antagonists

Mixed opioid agonist-antagonists medications have predominantly agonist action but also clinically significant opioid antagonist activity. Pentazocine, nalbuphine and butorphanol are mixed agonists-antagonists. They are available in the following formations: butorphanol-parenteral and inhalant, pentazocine-parenteral and oral, nalbuphine-parenteral. When mixed opioid agonist-antagonist are administered to individuals concurrently receiving an opioid agonist, an opioid agonist withdrawal reaction may be precipitated similar to the withdrawal phenomenon induced by naloxone hydrochloride {Narcan®}. Consequently, pain will increase. Mixed opioid agonist-antagonists should never be given simultaneously with a pure opioid agonist nor should they be alternating with opioid agonists (e.g., morphine alternated with pentazocine hydrochloride [Talwin®]). Furthermore,

mixed opioid agonist-antagonists have a high incidence of unpleasant psychomimetic effects. Because of these characteristics, mixed opioid agonist-antagonists are not recommended for treatment of chronic pain. Their most common use is for post-operative pain in individuals who are opioid agonist naive. Post-operative administration of a mixed agonists-antagonists to an individual taking opioid agonist preoperatively will precipitate withdrawal.

Partial Opioid Agonist

Buprenorphine {Buprenex®} is a partial agonist available in a parenteral form. It binds with opioid receptor sites less tightly than pure agonists, producing less effect than pure agonist. Buprenorphine has a ceiling effect to analgesia. Concomitant use with an opioid agonists may precipitate opioid withdrawal syndrome. Like mixed opioid agonist-antagonist, there is a propensity to develop psychomimetic effects with prolonged or high dose therapy. Partial agonist are not recommended for the treatment of cancer pain.

Other Categories of Drugs with Analgesic Properties

Recent research has shown that several categories of drugs that are not traditional analgesic drugs have analgesic effects. This is especially true when these drugs are administered intrathecally. One such drug is clonidine hydrochloride, an alpha-adrenergic agonist which acts primarily in the CNS causing inhibition of sympathetic vasomotor centers. Its primary indication is for the treatment of hypertension. This drug has recently been approved by the Food and Drug Administration for the treatment of severe pain in cancer patients by epidural administration in combination with opioids whose pain is not adequately relieved by opioids alone. It is more likely to be effective in neuropathic pain than somatic or visceral pain. Patients selected for treatment with this drug must be done very carefully and its use requires highly trained experts in this type of pain management, particularly in the placement and maintenance of epidural catheters. It is mentioned here to alert health care professionals who are

dealing with patients whose pain management is extremely difficult that such options exist, but only in centers that deal with such difficult pain problems. It is marketed under the trade name of Duraclon.

Routes of Administration

1. **Oral** route is the preferred route of analgesic administration because it is the most convenient and cost-effective. EXACTLY THE SAME RESULTS CAN BE OBTAINED WITH ORAL ADMINISTRATION AS WITH PARENTERAL IF BIOTRANSFORMATION IS TAKEN INTO ACCOUNT. If the oral route is impractical or unavailable, rectal and transdermal administration are minimally invasive alternatives. {See Table III-Method for Converting Other Opioids to Equianalgesic Dose of Morphine [Page 23] and TABLE IV-Oral and Parenteral Opioid Analgesic Dose Equivalencies and Relative Potency of Drugs as compared with 10MG Morphine IM for Treatment of Pain. [Page 25]}.

2. *Rectal* is an alternative route for patients experiencing nausea and vomiting or fasting. Neutropenia and thrombocytopenia are relative contraindications. This route is not useful in the presence of diarrhea or among those who are physically unable to insert the suppository. Colostomy or similar stoma can be used provided the flow of effluent is slow enough to allow absorption. {e.g., Dilaudid® 2 mgs po is equipotent to 2 mgs per rectum}.

3. *Transdermal* administration bypasses gastrointestinal absorption. Fentanyl (Duragesic®) is the only opioid available by this route. The maximum recommended dose is 300 ug/hr. Patients requiring larger doses should be considered for equipotent dose of an oral or parenteral/SQ dose. Plasma levels rise slowly over 12-18 hours after transdermal patch placement and slowly fall off 20-24 hours after removal. Therefore, a transdermal system is inappropriate for rapid dose titration and only considered in non-opioid naive patients who have relatively stable pain. As with controlled release opioids, immediate release opioids should be provided for the treatment of breakthrough pain. Dosage can be determined based on

the daily morphine equivalent dose {See Table II-Equianalgesic doses for Converting Morphine to Transdermal Fentanyl, Page 22}.

4. *Transnasal* is an alternative route when the oral route is unavailable. The transnasal route provides for rapid absorption and action. The only commercially available transnasal formulation is the mixed opioid agonist-antagonist, butorphanol {Stadol®}. It is primarily used in the treatment of acute headaches. Butorphanol, regardless of the route, is not recommended for use in cancer pain treatment.

5. *Subcutaneous or intravenous* continuous infusions may benefit patients with persistent nausea or vomiting, dysphagia or difficulty swallowing, intestinal obstruction, malabsorption, analgesic requirements which make oral dosing impractical, as well as patients who require rapid titration of opioids. Medications may be given as repeated intermittent bolus doses or by continuous infusion. Intravenous provides almost immediate analgesia; subcutaneous may require up to 15 minutes for effect. Bolus IV dosing provides a shorter duration of action than other routes. Continuous infusions provide steady blood levels. The use of an infusion pump may be the best strategy for delivery of a continuous infusion. Patient-controlled analgesia (PCA) devices can be used to combine continuous infusion with intermittent bolus doses, allowing more flexible pain control. It is recommended that the hourly SQ volume limit not exceed 5 cc. Medications can be concentrated to maintain SQ volume limits; maximal concentrations: fentanyl 50 ug/ml, morphine 50 mgs/ml, hydromorphone 50 mgs/ml. Intravenous and subcutaneous infusions can be administered at home provided that the caregiver received appropriate instruction. The subcutaneous site should be inspected and possibly be rotated every 48-72 hrs in neutropenic patients to minimize risk of site infection. {See Table III-Method for Converting Other Opioids to Equianalgesic Dose of Morphine [Page 23] and TABLE IV-Oral and Parenteral Opioid Analgesic Dose Equivalencies and Relative Potency of Drugs as Compared with 10 MG Morphine IM for Treatment of Pain [Page 25]}.

6. Intramuscular injections should be avoided because injections are painful and inconvenient, and absorption is erratic. Thrombocytopenic patients are a risk for hematomas at the injection site and neutropenic patients or individuals on chronic steroid therapy are at increased risk for site infection and systemic infection. If this route is used, a concentrated

opioid should be given to keep the volume of injection as small as possible. Hydromorphone (Dilaudid HP®) is available in a 10 mg/ml form. This is the most concentrated commercially available injectable opioid. This preparation may also be administered subcutaneously.

7. Intraspinal and intraventricular administration are options if maximal doses of opioids and adjuvants administered through other routes are ineffective or produce intolerable side effects {e.g., nausea/vomiting, excessive sedation, confusion}. Opioids can be administered via indwelling percutaneous or tunneled catheters into the epidural or intrathecal space. Intraventricular opioids are given via an Ommaya® reservoir surgically placed in the lateral ventricle. Administration can be by intermittent bolus injections or continuous infusion with bolus dosing. One advantage of these routes is that the equipotent dosing is far less in comparison to systemic delivery; less total dose may reduce side effects. Secondly, the duration of action is longer than with any other route of administration. Proper patient selection and consideration of long term maintenance are critical.

TABLE II
Equianalgesic Doses for Converting
Morphine to Transdermal Fentanyl¹

Oral 24-hour Morphine (mg/day)	1M 24-hour Morphine (mg/day)	Duragesic Dose (μ g/h)
45-134	8-22	25
135-224	23-37	50
225-314	38-52	75
315-404	53-67	100
405-494	68-82	125
495-584	83-97	150
585-674	98-112	175
675-764	113-127	200
765-854	128-142	225
855-944	143-157	250
945-1034	158-172	275
1035-1124	173-187	300

1. The analgesic activity ratio of 10 mg 1M morphine to 100 μ g IV fentanyl was used to derive the equivalence of morphine to Duragesic. A 10 mg IM or 60 mg oral dose of morphine every 4 hours for 24 hours (total of 60 mg/day IM or 360 mg/day oral) was considered approximately equivalent to Duragesic 100 μ g/h.

From: Janssen Pharmaceutica, Inc., Clinical Monograph, 1991.

TABLE III - METHOD FOR CONVERTING OTHER NARCOTICS
TO EQUIANALGESIC DOSE OF MORPHINE

1. Total the amount of narcotic taken in a 24-hour period (total 24-hour dose) that effectively controls pain.
2. Multiply by the conversion factor in the table below.
3. Then divide by the number of doses per day based on duration of drug action, e.g., 6 doses for immediate release PO morphine q 4hrs. or 2 doses for MS Contin q 12 hrs., to determine the individual dose. Obviously, for the 24 hour formulation the divisor is 1.

From Oral	To Oral Morphine	From IV	To IV Morphine
Methadone	1.5	Methadone	1.0
Hydromorphone	4.0	Hydromorphone	6.7
Meperidine	0.1	Meperidine	0.1
Levorphanol	7.6	Levorphanol	5.0
Codeine	0.15	Codeine	0.08
Oxycodone	2.0		
Pentazocine	0.17	Pentazocine	0.17
Hydrocodone	0.15		

Adapted from information which originally appeared in: Foley, K.M.: The Treatment of Cancer Pain, N. Eng. J. of Med., 1985, 313: 84-95.

TABLE IV - ORAL AND PARENTERAL NARCOTIC ANALGESIC DOSE EQUIVALENCES AND RELATIVE POTENCY OF DRUGS AS COMPARED WITH 10 MG MORPHINE I.M. FOR TREATMENT OF SEVERE PAIN

(This table should be consulted to determine the equianalgesic dose when changing route of administration or changing from one narcotic to another.)

Class	Generic Name (Brand Name)	IV/IM (mg)	PO (mg)	Conversion Factor (IV to PO)	Duration (hrs.)
NARCOTIC AGONISTS	Morphine Roxanol SR, MS Contin (Controlled release)	10 -	30 -	3	3-4 8-12
	Methadone (Dolophine)	10	20	2	6-8
	Hydromorphone (Dilaudid)	1.5	7.5	5	2-3
	Meperidine ¹ (Demerol)	75	300	4	2-3
	Levorphanol (Levodromoran)	2	4	2	3-4

TABLE IV continued -2

NARCOTIC AGONISTS	Codeine	130	200	1.5	3-4
	Oxycodone (Roxicodone) Also available combined with aspirin acetaminophen (Percodan, Percocet). Oxycotin (Controlled Release)	-	15 20	-	3-5 12
	Hydrocodone (Not available alone except in anti-cough medications.) Available combined with acetaminophen (Vicodin, Lortab).	-	30	-	3-5
	Pentazocine (Talwin)	60	180	3	2-3
MIXED AGONIST-ANTAGONISTS ²	Nalbuphine (Nubain)	10	-	-	4-6
	Butorphanol (Stadol)	2	-	-	4-6
	Buprenorphine ³ (Buprenox)	.3	-	-	6-8
PARTIAL AGONIST					

1. Not recommended for long-term or high-dose use because of CNS toxic metabolite normeperidine.
2. Drugs from this category should NOT be used in combination with narcotic agonist drugs. Converting a patient from an agonist to an agonist-antagonist could precipitate a withdrawal crisis in the narcotic-dependent patient.
3. Respiratory depression may be difficult to reverse with naloxone.

Adapted from information which originally appeared in: Foley, K.M.:The Treatment of Cancer Pain, N. Eng. J. of Med., 1985, 313: 84-95.

Opioid Side Effects

Side effects are among the most common reasons cited for failure of opioids to relieve pain. If side effects are not anticipated and treated prophylactically patients may avoid taking them or complain that they are allergic to them. In reality, true allergy to any of the opioids are rare. Greater compliance with opioid therapy is likely to be achieved if patients are taught to expect that most of the side effects are either preventable or manageable.

1. *Constipation* is the most annoying side effect as far as the patient is concerned and may defeat the oral administration of opioids if not effectively treated. Unfortunately, tolerance does not develop to this pharmacological action of opioids, i.e., with chronic administration of opioids, normal bowel function does not resume. The nausea and vomiting sometimes seen with opioid administration is most often related to constipation; however, other causes must be considered. When correction of the constipation abolishes the nausea and vomiting, the patient can then take the opioid orally without problems.

Constipation is best treated prophylactically at the initiation of opioid therapy. General measures such as exercise, adequate fluid intake, eating bulk-containing foods (unprocessed bran and bran-containing cereals), and taking natural colon stimulants such as prune juice should be encouraged, but these are not often sufficient. The most common approach is to use a combined senna laxative and stool softener (commercially available without a prescription as Senokot-S). The effective dose is usually 2 to 4 tablets twice a day. The actual dose is highly individualized and is not related to patient weight or amount of opioid taken. The patient should be instructed to titrate the dose up or down as needed to maintain regular, comfortable bowel movements at least every other day. Some patients may require as much as 4 tablets three times a day. If satisfactory results are not achieved, lactulose or sorbitol, 30 ml once or twice daily can be added.

It is important to assess the patient's bowel status before initiating an opioid or increasing the dose. If the patient is already constipated and has not had a bowel movement in more than three days, then it is essential to take action to clean out the bowel. Several doses of lactulose may achieve

the desired result, but in more severe situations (especially if the patient is already experiencing nausea and/or vomiting) cleansing enemas are required. One of the more effective enemas is the old fashioned milk and molasses enema (see recipe in Table V). This is a small volume enema that is well tolerated and potent in action when administered as high in the colon as the catheter tip can be inserted without meeting resistance. For this purpose an enema administration set with a soft, flexible catheter at least 8 inches long is needed.

Occasionally even an aggressive clean out and prophylaxis with a laxative/stool softener combination is insufficient. For these refractory situations a prokinetic agent such as metoclopramide (Reglan) or cisapride (propulsid) can be added.

Table V: Milk and Molasses Enema Instructions

8 oz warm water
3 oz powdered milk
4.5 oz molasses

Put water and powdered milk into a jar. Close the jar and shake until the water and milk appear to be fully mixed. Add molasses and shake the jar again until the mixture appears to have an even color throughout. Pour the mixture into the enema bag.

Using an enema bag with a long, soft tube (e.g., red rubber catheter) attached, gently introduce the tube about 12 inches, but do not push beyond resistance. Administer the enema high. Repeat every 6 hours until good results are achieved.

Reference: Bisanz, A. (1997) Managing bowel elimination problems in patients with cancer. *Oncology Nursing Forum* 24(4)679-686.

2. *Nausea* may occur with or without vomiting. Tolerance usually develops to nausea after several days of opioid therapy. Vomiting accompanies nausea more often when constipation is not well-controlled. Any complaint of nausea or vomiting warrants a thorough bowel assessment and intervention as described. To control the symptom while the patient is titrating the bowel regimen or developing tolerance antiemetic therapy with prochlorperazine (Compazine), metoclopramide hydrochloride (Reglan), lorazepam (Ativan), or haloperidol (Haldol) is often effective. It may be necessary to use this antiemetic therapy on a scheduled basis for the first week of opioid therapy, after which it can be discontinued if nausea disappears or used on an as needed basis.

3. *Sedation* may occur at the onset of therapy but usually disappears after a few days. It seems to elicit an overreaction by physicians when it occurs in their patients and is often the reason cited by the patient for abandoning the drug. Unfortunately, this often leads to a reduction in dose to an ineffective level or other treatment modalities are instituted even though they are less effective. Sedation is also upsetting to family members; they should be assured that it is temporary and reversible and is most often due to pre-existing sleep deprivation. It is not unusual for the patient to sleep more during the first few days of good pain control. The patient may complain of feeling drowsy or “drugged.” Patients and families should be cautioned to expect this as the sleep deprivation is corrected and be reassured that should the problem persist, it can usually be managed without sacrificing pain control, by reducing the dose gradually or by changing the opioid.

Occasionally, sedation continues to be a problem, however, it can be effectively managed with the judicious use of central nervous system stimulants such as methylphenidate (Ritalin) or dexamphetamine (Dexedrine). This usual beginning dose is 5 mg upon awakening in the morning and another dose between noon and 2 PM. Administering the stimulant later than 2PM may interfere with normal sleep as the drug can last as long as 6 to 8 hours. The dose should be titrated upward in 5 mg increments every 2 to 3 days until the desired effect is achieved, or the patient encounters unwanted side effects. Often the stimulant medication may enhance the effect of the opioid and the opioid dose can be reduced.

4. *Respiratory depression* is perhaps the most serious impediment to adequate pain control with opioids. In particular, inordinate fear of

respiratory depression prevents adequate opioid use resulting in inadequate pain relief. In considering this side effect, the most important distinction to be made is whether the patient is tolerant to opioids or not. The opioid-tolerant patient, i.e., the patient who has been taking them regularly for several weeks or more, is tolerant to the respiratory depressant effects and respiratory depression is highly unlikely, no matter what the dose administered. Also, pain is a natural antagonist to the respiratory depressant effects of opioids; therefore, as long as the patient is experiencing pain, there is little likelihood that respiratory depression will occur. Closer monitoring is warranted in opioid-naïve patients or when another pain intervention, such as an anesthetic block, effectively takes away the pain stimulus. Care must be taken in these situations to titrate the opioid dose downward without precipitating a withdrawal reaction. Withdrawal can be avoided by administering approximately 1/3 of the previous opioid dose.

Often respiratory depression is attributed to the opioid when in reality, there is little evidence of respiratory compromise. Although many standard textbooks designate a respiratory rate of less than 12 per minute as a depressed rate, it usually is not. Many sleeping patients who are not taking opioids will have a respiratory rate of 6-8 per minute and be perfectly normal. Many factors must be considered in determining whether a low respiratory rate is detrimental to a patient. For nurses or paramedical personnel, the “arousable factor” is a satisfactory guide. If a patient is easily arousable, he or she is unlikely to have significant respiratory depression. It should be emphasized, however, that significant respiratory depression is the most serious side effect of opioid therapy and persistent respiratory rate of <8 per minute (for 30 minutes or longer despite stimulation and/or oxygen saturation <90%, intervention may be considered).

When true respiratory depression occurs, the quickest method of treatment is to reproduce the pain the patient is having, i.e., actually stimulate the pain in the painful area or simply coaching the patient to breathe deeply. The opioid antagonist naloxone hydrochloride (Narcan) can be administered judiciously to ultimately correct the situation. One 0.4 mg ampule of naloxone diluted in 10 ml of normal saline should be slowly infused intravenously until respirations increase but short of reversing the analgesia completely. The dose may need to be repeated because naloxone is a relatively short-acting medication and the duration of action of the opioid may exceed the effectiveness of naloxone

(especially true for methadone and levorphanol which have longer half-lives). To maintain analgesia but temporarily prevent recurrent respiratory depression, it may be necessary to constantly infuse low-dose naloxone until respiration is stabilized. To do this, add five 0.4 mg ampules of naloxone to 500 ml of 5% dextrose in water (D5W) to achieve a final concentration of 0.0004 mg naloxone/ml D5W, and titrate the infusion to maintain adequate respirations with retention of analgesia. Intense involvement of the physician is obviously required. Only in critical situations such as full respiratory arrest, should naloxone be administered by rapid, direct IV push in an undiluted form. Naloxone is not a benign drug and can produce serious side effects such as tachycardia, cardiac irritability, hypertension, and seizures. It can also produce a severe withdrawal reaction that is not tolerated well by critically ill or debilitated patients. Sudden and severe reversal of analgesia by this method is unnecessary and adds greatly to the suffering experienced by the patient.

5. *Myoclonus* is a fairly common side effect seen most often with higher opioid doses. The patient may experience mild to moderate muscle jerks, most commonly during sleep, but occasionally throughout the day. If the jerking is mild and not bothersome to the patient, then a simple explanation that this is a potential side effect should reassure the patient. If it disrupts sleep or causes exacerbation of the pain (especially in patients with bone metastases) changing to another opioid may help. If persistent, or changing to another drug is not desirable, low doses of a benzodiazepine muscle relaxant may help. Diazepam (Valium) in doses as low as 2 mg bid or tid, or clonazepam (klonopin) 0.5 mg to 1 mg bid. These drugs may add to sedation, and if the myoclonus is mostly a problem during sleep, they can be given at bedtime only.

6. *Urinary retention* occurs infrequently and may also be a transient side effect. It may be manifested as difficulty in initiating the urine stream, but can include inability to initiate micturition. Techniques such as running water, pouring warm water over the perineum, or gentle bladder massage may be all that is needed. If such simple measures are not effective then catheterization may be warranted. Intermittent, straight catheterization is preferred over insertion of a foley catheter. After several catheterizations the patient may be able to resume normal voiding. If retention is persistent, try changing to another opioid or alternative interventions. Only very rarely is it necessary to teach a patient self-catheterization for continued urinary retention.

7. *Other side effects* include confusion, hallucinations, and dizziness. Like sedation, these are most often temporary. Again, physicians exhibit an inordinate concern for these effects, and reinforcement of this concern often comes from the family. The temporary nature of these symptoms should be emphasized. Tolerance frequently develops to all of them, and patience is to be encouraged in dealing with them. However, progressive worsening of these symptoms on stable opioid dosing usually indicates an alternate cause and should be evaluated.

Opioid Tolerance and Dependence

1. *Tolerance* to a drug is defined as the failure of a steady dose of the drug over time, to sustain the desired pharmacological effect, i.e., the need to increase the drug dosage to maintain the original pharmacological effect. Tolerance can occur with a wide variety of drugs, including opioids. Tolerance to the analgesic effects of opioids occur slowly, and some clinicians think it does not occur at all in cancer patients whose pain intensity remains stable. If pain seems to get rapidly out of control and large doses are required to bring the pain back under control, the pain intensity is probably increasing because of progression of the cancer.

2. *Physical dependence* on a drug simply means that a patient who has received an opioid for a significant period of time will have a withdrawal reaction (abstinence reaction) if the drug is abruptly withdrawn or if a narcotic antagonist, such as naloxone is administered. This condition should not be equated with “addiction.” Addicted patients may be physically dependent on a drug, but physically dependent patients are not necessarily addicted to a drug. Physical dependence is a normal physiological response and should be anticipated in patients whose pain disappears and who must then be withdrawn from opioids. To avoid a withdrawal reaction, the opioid dose should be gradually reduced. The opioid can be given p.r.n. to treat the withdrawal symptoms, allowing the patient to slowly taper the dose.

3. *Addiction (Psychological dependence)* is a term and condition that has only behavioral and social determinants. Individuals addicted to drugs make the possession and use of drugs the paramount purpose of their lives. Addicts readily sacrifice all their moral and ethical values for drugs. They

are willing to sacrifice resources, money, social position, job, pleasure of eating, pleasure of sex, freedom from jail, and, finally, life itself to drugs. This picture is quite different from that of the cancer patient in pain who seeks drugs for the relief of his or her pain. It is rare that someone turns to drug abuse when introduced to an opioid for medical reasons.

Unfortunately, our society does not distinguish between the legitimate and illegitimate uses of opioids. Therefore, any use of them is considered bad, no matter what the reason. Patients unrelieved of pain who request, or insist upon, adequate control of their pain are often declared morally inferior persons, persons with weak characters, or even drug abusers by physicians and other health care providers. This reaction should be guarded against.

The following is taken verbatim from the Handbook of Cancer Pain Management prepared by Weissman, Burchman, Dinndorf, and Dahl for the Medical College of Wisconsin and the University of Wisconsin Medical School in conjunction with the Wisconsin Cancer Pain Initiative and the World Health Organization. It describes the condition of “pseudoaddiction”:

“Opioid pseudoaddiction” is a common iatrogenic syndrome in which patients develop certain behavioral characteristics of psychological dependence as a consequence of inadequate pain treatment. This may occur as a result of 1) prn dosing during periods of continuous pain and/or 2) the use of dosing intervals which are greater than the duration of action of a given analgesic and/or 3) the use of insufficiently potent analgesics. Patients with this syndrome must continually demonstrate their need for analgesics and are often described as difficult patients, chronic complainers and/or “addicts “. Patients will often resort to bazaar or dramatic behavior-(acting out) in an attempt to prove their pain is real so that analgesics will be administered. Consequences to the patient if this syndrome is not recognized and treated include a loss of trust in the health care team and feelings of isolation, fear and anger. Treatment involves breaking the vicious cycle of mistrust, and realization by the health care team that psychological dependence (addiction) should not be a consideration in deciding the proper dose and schedule of opioids. Specific measures include 1) establishing trust between patient, nurse and physician that pain can and will be controlled, 2) using scheduled (“around the clock”) analgesics of sufficient potency to provide adequate analgesia, 3) using oral drugs whenever possible and 4) frequent reassessment of the pain and

level of analgesia.

Note: Short acting opioids (morphine, hydromorphone, oxycodone and codeine) are frequently prescribed at an ineffective dosing interval of every 6-8 hours in the mistaken belief that this will prevent or delay the onset of tolerance, physical, or psychological dependence. As noted above, this prescribing pattern will lead to undertreatment of the pain and potentially cause the behavior pattern seen in cases of “pseudoaddiction”.

Co-Analgesic (Adjuvant) Drugs

(See Table IX - Adjuvant Analgesics, pages 54-56.)

Antidepressants - Antidepressants are used for pain relief even when a patient is not clinically depressed. These drugs have intrinsic analgesic properties and are most useful for relief of neuropathic pain. First generation tricyclics such as amitriptyline hydrochloride (Elavil) and doxepin hydrochloride (Sinequan) have been especially helpful. Start with 10-25 mg at bedtime and increase the dose until symptomatic pain relief occurs. Lower doses should be used in patients over 40 years. The usual effective dose range is 50-150 mg, but occasionally up to 300 mg is needed. Antidepressants are usually given as single doses at bedtime, but occasionally 10-30 mg of the total dose may also be given once or several times during the day. If depression and sleep disturbance are present, they frequently will improve too.

Experience is limited with the newer, more action specific antidepressants, such as the serotonin specific reuptake inhibitors (SSRIs) for the treatment of neuropathic pain. If neuropathic pain treatment fails with the tricyclic antidepressants there is no reason not to give these newer agents a therapeutic trial.

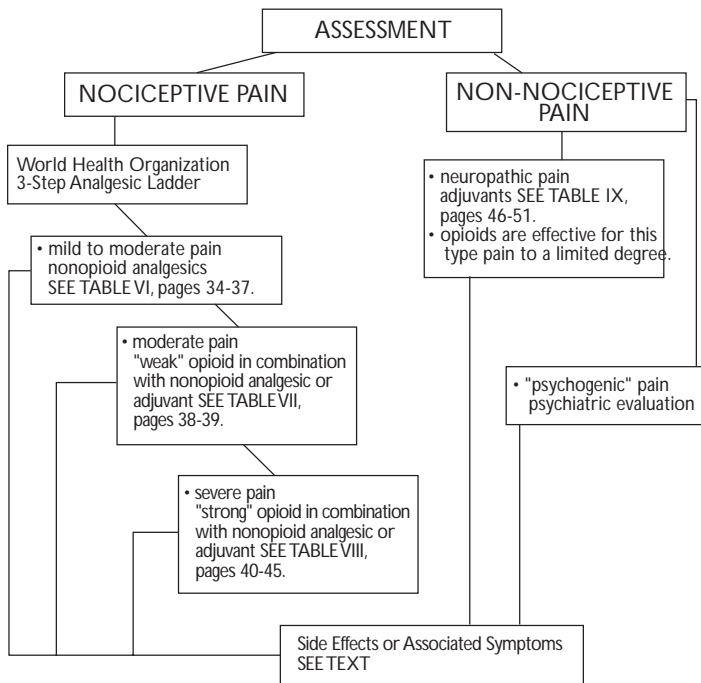
Anticonvulsants - Anticonvulsants are helpful for neuropathic pain because they suppress neuronal firing. Carbamazepine (Tegretol) is very effective but must be started at a low dosage of 100 mg at bedtime and then

gradually increased to 100-400 mg three times per day (T.I.D.) depending on clinical response and blood levels. Phenytoin sodium (Dilantin), 100 mg two times per day (B.I.D.) to four times per day (Q.I.D.), or divalproex sodium (Depakote), 250-500 mg B.I.D. to Q.I.D. depending on symptom relief or blood levels, may be used instead of carbamazepine. Clonazepam (Klonopin), starting with half of a 0.5 mg tablet at bedtime and increasing to 1-2 mg and occasionally up to 5-10 mg per day, is also frequently effective. Gabapentin (Neurontin) is a newer anticonvulsant that has also shown promise in the treatment of neuropathic pain

Miscellaneous drugs - Hydroxyzine hydrochloride, 25-100mg intravenously Q.I.D., frequently relieves nausea and anxiety in addition to pain. It is considerably less effective when given by mouth. Haloperidol (Haldol), 2-10 mg orally (p.o.) or I.V. per day in divided doses or all at bedtime, may also be an effective treatment for pain, especially when nausea, anxiety, or sleep disturbance coexist.

Corticosteroids are extremely useful in the treatment of bone pain and any pain caused by swelling around pain sensitive structures. Dexamethazone is the one most commonly used because of its sparing effects on electrolytes. A loading dose of 100 mg may be used followed by 4 mg Q.I.D. The usual precautions with using corticosteroids should be followed.

Figure 1
Algorithm for Pharmacologic Management



PSYCHOSOCIAL INTERVENTIONS

Cancer pain is a complex phenomenon that incorporates more than the noxious stimuli generated by the underlying cause. One must always be mindful that the patient experiences pain within a greater psychosocial context and that coping styles and social and environmental stressors vary greatly from one individual to another. In patients with cancer pain, it is necessary to assess and treat all of the components of pain: physical, psychological, financial, interpersonal, and spiritual.

It is becoming increasingly evident that pain is better viewed not as either “physical” or “emotional” but as a total experience modulated by each aspect of the patient’s being. “Suffering,” in contrast to pain, represents a greater dimension involving elements of a perceived threat and the anticipation of adverse consequences. In this context, it is important to recognize that cognitive processes as well as social and cultural factors influence the nature and severity of the individual’s response to pain.

Professionals skilled in these techniques are desirable to perform this type of therapy, however, it is recognized that a variety of circumstances may prevent their participation. It is also recognized that experienced health care professionals, such as nurses, social workers and members of the clergy, who are usually readily available can function in these capacities to varying degrees.

PSYCHOLOGICAL CONSIDERATIONS

A psychological assessment should include consideration of the patient’s personality before the pain, past experiences with pain and ways of coping with it, current mental status, and the available sources of psychological support.

Management Considerations

The ideal therapeutic goal when treating cancer pain should be complete pain relief in an alert patient with a sensorium unclouded by the therapy employed. The psychological aspects of pain could become irrelevant if analgesic treatment is inadequate because the unchecked physical components of the pain cannot be overcome by psychosocial interventions. However, since pain comprises a combination of physical sensations and negative affect, it might be partially relieved or diminished by reducing the affective component through the use of a variety of non-pharmacological interventions. The research base for these interventions is just beginning to evolve, however they are known to be effective, at least anecdotally, in many patients. Because they afford very little risk to the patient, they can be tested empirically as an adjuvant to pharmacologic, anesthetic, and other physical modalities.

There are several key principles regarding the introduction of any of these interventions. How these interventions are introduced to the patient may greatly affect the response to them and ultimately their use and effectiveness. First, it should be stressed to the patient and to appropriate family members that the offering of psychosocial interventions in no way implies that the pain is not real, imaginary, or that the caregiver believes the patient has a mental disorder. It is important to emphasize the complementary nature of these interventions and the belief that while they may not alter the pain sensation completely, they have the potential for enhancing other therapies and improving the ability to cope with the pain. Second, timing of the teaching or introduction of these techniques is important. It is wise to introduce them early in the course of potentially painful situations when the techniques can be more effectively learned and practiced. Introducing them during a time of severe pain when the patient's coping ability is challenged decreases the likelihood that they will be used or effective. Third, they should never be relied upon as the primary method of pain control or as an alternative to adequate pharmacologic intervention.

Cognitive Behavioral Therapy

Cognitive behavioral therapy or supportive counseling involves therapeutic techniques to help the patient obtain a sense of motivation, better acceptance, and improved self esteem. The initial task is to assess maladaptive conditions and consequent behavioral patterns. The therapist's role is one of support, acceptance, and facilitation of interaction; this interaction should be directive without being coercive. Referral to a skilled psychotherapist is recommended for optimal results.

Biofeedback

Biofeedback can be used to train the patient to relax specific tense muscles, to lessen autonomic arousal, and to promote general relaxation by providing biologic information (such as skin temperature) by means of a monitoring device. These devices are used in conjunction with other techniques such as relaxation exercises that achieve the desired effect. The role of biofeedback is limited in pain control, but it can be an adjunct to conventional pain therapy, contributing to helping the patient gain some control over the pain.

Self-Hypnosis

Another intervention that has been found useful in the treatment of cancer pain is self-hypnosis. However, not all pain responds to hypnosis. It appears that the depth of the hypnotic trance determines the quality of the response: the deeper the trance, the better the response. However, hypnosis as an adjuvant to other cancer pain treatment is helpful in a significant number of patients. It is a skill that should be taught by a qualified therapist.

Relaxation Training

Relaxation exercises can be useful in assisting the patient to promote muscle relaxation, improve blood flow to a painful part, as well as to reduce anxiety. Several techniques may be employed including progressive muscle relaxation, rhythmic breathing, and guided imagery. These can be used individually or in combination and should be individually tailored to the patient's needs and preferences.

Progressive muscle relaxation involves focusing on individual body parts in an orderly succession (e.g. from toes to head.) The patient is asked to alternately tense and relax each area and to focus on the warmth and relaxation that ensues.

Rhythmic breathing involves focusing the patient's attention on the breathing pattern and consciously increasing the depth and slowing the rate of breathing.

Guided imagery involves focusing concentration on a situation, feeling, or experience that is pleasant or soothing to the patient. Subject matter should be chosen that the patient has familiarity with and considers to be pleasant and/or soothing.

Any of these techniques can be enhanced through the use of music or recorded tapes that walk the patient through the process step by step. It is important to choose music or other recordings that the patient finds appealing for them to be successful.

Health care professionals are encouraged to try these exercises themselves to become familiar with the techniques and learn first hand of their potential benefits.

The “Therapeutic Milieu”

A recent and welcomed development in the care of cancer pain patients is the hospice. It has been observed that when patients enter a hospice, the control of pain improves significantly. One probable contributing factor is the high priority hospices give to psychosocial and spiritual issues. In a hospice, everyone gets involved in the treatment-patient, family, and health care providers - and all of them are considered to be subject to significant stress; therefore, support mechanisms are established for all. A hospice is able to provide multidimensional care that requires, of course, a multidisciplinary team approach. The family is not the patient's only source of support. However, involvement of family members in patient care is seen as preparing them for their period of bereavement. The reality and the imminence of death are not denied but rather dealt with directly. The atmosphere is relaxed in terms of regulations regarding visitors, food, and terms of daily living, in contrast to the more structured environment in a hospital. The establishment of hospices should be encouraged in all communities, and thought should be given to improvements that can be made in the “milieu” for the treatment of all pain, not reserving this approach for terminal patients alone. There is a growing emphasis on palliative care as a supportive approach involving pain and symptom management throughout the course of the patient's experience with cancer, not just when the end of life is near and all tumor treatment options have been exhausted.

Psychotropic Drugs

The important influence of psychological factors in modifying the pain experience has led to increased use of psychotropic medication. Unfortunately, the use of psychotropics in cancer patients has not been well studied. Most of the time, inadequate doses of psychotropics have been given, denying patients maximum benefit from them.

Hypnotic Sedatives

Anxiety is too often inappropriately treated with benzodiazepines rather than with discussion and support. The routine use of hypnotic sedatives is not encouraged, although assured, adequate sleep is important. One of the goals of using these medications is the diminishing of anxiety, but it is important to recognize that drugs should be combined with adequate psychotherapeutic intervention.

Major Tranquilizers

Within the group of major tranquilizers, the phenothiazines (chlorpromazine, thioridazine, and trifluoperazine hydrochloride) and haloperidol are most frequently used. Haloperidol seems to be preferred because it has a less sedating effect and fewer anticholinergic adverse effects. The phenothiazines have an anti-nausea effect that is frequently beneficial to cancer patients.

Antidepressants

Although depression and anxiety are commonly present in patients who suffer pain; not all depressions require the use of antidepressant medication. Anticipatory grief is a normal reaction and an integral component of a life-threatening illness. When antidepressants are necessary, the tricyclic antidepressants or newer antidepressants may be chosen. Special consideration must be given to patients who have cardiac conduction disturbances, prostatic hypertrophy, or glaucoma because tricyclic antidepressants could complicate these conditions.

The drugs most commonly used are amitriptyline hydrochloride (Elavil), nortriptyline hydrochloride (Pamelor), imipramine hydrochloride

(Tofranil), doxepin (Sinequan) and desipramine hydrochloride (Norpramin). Generally, they should initially be given as single daily doses of 10-75 mg, preferably at bedtime, with increases according to tolerance. Doses of 150-200 mg may be needed, but doses above these are required only in exceptional cases. The use of a single evening dose minimizes the awareness of unpleasant anticholinergic secondary effects and diminishes daytime sedation; in addition, a single evening dose is equally as effective as divided doses. Unfortunately, the antidepressants need to be used for 1-3 weeks before the total therapeutic effect can be observed. Failure in the treatment of depression because of low doses is common, and the medications should be adjusted according to clinical responses. In elderly and/or debilitated patients, smaller doses, e.g., an initial total daily dose of 10 mg, are indicated. Escalation of the dose should proceed according to the patient's ability to tolerate it. Although depression may not be fully relieved in lower dose ranges, patients may benefit significantly from the pain-relieving properties of these drugs, especially for neuropathic pain.

TABLE VI. NON-OPIOID ANALGESICS FOR TREATMENT OF MILD TO MODERATE PAIN

Generic Name	Approx. half-life (hrs)	Dosing Schedule (hrs)	Starting dose (mgs/day) ² Adults ≥ 50kgs	Maximum dose ² (mg/day)	Excretion	Comments
Para-aminophenol derivatives						
Acetaminophen (Tylenol®)	2-4	q 4-6	3750	6000	85% renal	Lacks peripheral anti-inflammatory and anti-platelet effect. Excessive dosing-liver toxicity. Monitor platelets and liver function with chronic high doses. Children and adults- 50 kgs: 10-15 mg/kg q 4 hrs.
Salicylates						
Acetylsalicylic acid ³	3-12	q 4-6	3750	6000	100% renal	May inhibit platelet aggregation for >1 week. Contraindicated in children with fever or other viral syndromes. See ^{4,5}
Choline magnesium trisalicylate (Trilisate®)	8-12	8-12	Initial dose; 1500 mgs; then 1000-1500 mgs q 8-12	4500	100% renal	Minimal platelet effects. Approved for children. Minimal GI Toxicity. Suspension available.
Difunisal (Dolobid®)	8-12	12	Initial dose; 1000 mgs; then 500 mgs q 12	1000	90% renal <5% fecal	Less GI toxicity than aspirin. See ^{4,5}
Salsalate (Disalcid®)	8-12	12	Initial dose; 1500 mgs; then 1500 mgs q 12	3000	100% renal	See ^{4,5}
Propionic Acids						
Fenoprofen calcium (Nalfon®)	2-3	6	300-600 q 6-8	3200	98% renal	See ⁴

TABLE VI continued -2

Flurbiprofen (Ansaid®)	5-6	8-12	100	300	65-85% renal	See ⁴
Ibuprofen (Motrin®, Advil®, Nuprin®)	2-4	4-8	400-600 mg q 6	2400	50-75% renal	See ⁴
Ketoprofen (Orudis®)	2-4	6-8	25-50 mg q 8 with mild renal impairment & elderly, 75 mgs q 8 or 50 mgs q 6	300	50-90% renal 1-8% fecal	See ⁴
Naproxen (Naproxen®, Naprosyn®)	13	12	500	1000	95% renal	See ⁴ Cautious use of > 1500 mgs/day may be more efficacious. Suspension available.
Naproxen sodium (Anaprox®, Aleve®)	13	12	550	1100	95% renal	See ⁴ Doses > 1650 mg/day may be more efficacious.
Oxaprozin (Daypro®)	50-60; 40 with repeated dosing	24	1200	1200	60% renal 30-35% feces	See ⁴ Photosensitivity
Acetic Acids						
Diclofenac (Voltaren®)	2	6	75	200	50-70% renal 30-35% fecal	See ⁴
Indomethacin (Indocin®, Indocide®, Indomethine®)	4-5	8-12	75	200	60% renal 30% fecal	Available in sustained release and rectal formations. Greater GI and CNS toxicity.

TABLE VI continued -3

Bromfenac (Duralac)	1-2	6-8	25-150	150		Should be used for short term therapy <10 days. Short plasma half-life apparently presents no direct relationship to its clinical effectiveness.
Sulindac (Clinoril®)	8-16	12	Initial dose 150 mg q 12 then according to response ? 400 mgs/day	400	50 % renal 25 % fecal	See ^{4,5}
Tolmetin (Tolectin®)	1	8	Initial 400 mg q 8; then titrate to response	1800	100% renal	See ^{4,5}
Oxicam						
Piroxicam (Feldene®)	50	24	20	40	67% renal 33% fecal	See ⁵ : Progressive increase in response may occur because of long half-life. Steady state 7-12 days after initiation of therapy.
Fenamates						
Meclofenamic acid (Meclomen®)	50 mins-3.3 hours	4-6	50-100	400	67% renal 20-25% fecal	Dose related diarrhea. ⁵
Mefenamic acid (Ponstel®)	2	6	Loading dose: 500 mgs; then 250 mgs	1000	67% renal 33% fecal	Intended for short term use. Dose related diarrhea. ⁵
Pyrrolo-pyrrole						
Ketorolac (Toradol®)	4-6	4-6	IV/IM 30-60 mgs loading dose; then 1/2 loading dose q 6 hrs; PO 10 mgs q 6 hrs.	D1 < 150 mgs IV/IM; qd. PO < 40 mgs.	91% renal 6% fecal	Short term use only (< 5 days). See ⁵

TABLE VI continued -4

Pyrazole						
Phenylbutazone	50-100	6-8	300	400	60% renal 27% fecal	Potent anti-inflammatory. Risks of serious complications outweigh potential benefits. Cautious use is recommended.
Pyranocarboxylic acids						
Etodolac (Lodine®)	6-7	6-8	800	1200	60% renal 30% fecal	See ⁵
Naphthylalkanones						
Nabumetone (Relafen®)	22-30	q 12	1000	2000		A pro-drug. GI and kidney toxicity is reported as minimal.
<ol style="list-style-type: none"> Adapted from Portenoy, R. (1989). Three-step analgesic ladder for management of cancer pain. <i>Anesthesiology News</i>, McMahon Medical News. AHCPR Guidelines for the Treatment of Cancer Pain (1992). Starting and maximal dosing are not intended to preclude clinical judgement of prescriber. Dosage reductions recommended for elderly, renal insufficiency, multiple medications. Initial doses may be titrated upward. Doses can be incremented weekly. Studies of NSAIDs in the cancer population are limited; dosing guidelines are based on studies in inflammatory diseases, thus doses in cancer patient are empiric. Half-life for ASA increase the dose. At high doses, liver function, BUN/CR, and UA should be performed q 1-2 months; stools for occult blood q 2 weeks. Dyspepsia, gastritis, gastric ulcer. With the exception of choline magnesium trisilicylate (Trilisate) and salsalate, monitor for bleeding with the administration of NSAIDs. 						

TABLE VII. THE USE OF WEAK OPIOIDS FOR THE TREATMENT OF MODERATE PAIN

Generic (Trade)	Dose (mg) Equianalgesic to ASA 650 mgs ²	Half-life (hrs)	Peak Effect (hrs)	Duration	Toxicity	Comments
Opioid Agonist						
Codeine	32-65 po	2-3	1.5-2.0	3-4	See morphine ³	Usually oral formulations combined with ASA or APAP.
Hydrocodone (Lorcet®, Lortab®, Vicoden®, others)	^{not} established, but experience indicates it to be slightly more potent than codeine.	4	0.5-1.0	3-4	See morphine	Only available combined with other drugs
Propoxyphene HCl (Darvon®; Wygesic®; Darvon-Compound-65®)	65-130	12	1.5-2.0	3-4	See morphine	Seizure with overdose. ⁴ Usually combined with NSAID
Propoxyphene Napsylate (Darvon-N®, Darvocet-N®)	100-200	12	1.5-2.0	3-4	See above.	See above.

1. Adapted from Portenoy, R. (1989). Three-step analgesic ladder for management of cancer pain. Anesthesiology News, McMahon Medical News. AHCPR Guidelines for the Treatment of Cancer Pain (1992).
2. Oral dose analgesic equivalent to 650 mgs aspirin. Starting dose may be higher or lower and titrated to effect.
3. Doses > 65 mg often are not appropriate due to diminishing incremental analgesia with increasing doses; increasing doses tends to increase nausea, constipation, and other side effects.
4. Toxic metabolite, norpropoxyphene, accumulates with repetitive dosing although not with doses used in most clinical settings.
5. Risk of psychomimetic effects; less risk of respiratory depression at high doses.

TABLE VIII. THE USE OF STRONG OPIOIDS FOR THE TREATMENT OF SEVERE PAIN

Generic	Dose (mg) Equianalgesic to Morphine 10 mgs IM ²	Half-life (hrs)	Peak Effect (hrs)	Duration	Toxicity	Comments
Hydromorphone (Dilaudid®)	1.5 IM 7.5 PO	2-3	0.5-1.0 1-2	3-4 3-4	See Morphine	Multiple routes. Commercially available 10 mg/ml parenteral formulation.
Morphine (Immediate Release)	10 IM 30-60 PO ³	3 -	0.5-1.0 1.5-2.0	2-4 2-4	Common: Constipation, nausea, sedation. Respiratory depression in opioid-naïve, with rapid titration or in combination with sedatives. Uncommon: Pruritis, xerostomia, urinary retention. Rare: hypotension, SIADH.	IM;PO Conversion ratio 1:2-3. Conversion from immediate to controlled release morphine- calculate 24 hr dose requirement and divide by 2 for q 12 hr dosing and by 1 for 24 hour dosing.
Controlled release (MS Contin®, Oramorph®) (Kadian®) Kadian is the only 20-24 hour product	20-60 PO ^{3,6}	2-3	3-4	8-12 ⁴ 20-24 ⁴		

TABLE VIII continued -2

Fentanyl (Duragesic®)	100ug IV 100 ug transdermal ^{6,7}	7.0 17	2-3 mins Onset: 4-6 with initial application; See comments.	0.5-1.0 See comments	See morphine	Serum concentrations plateau 12-24 hrs after transdermal application; peak within 24-72. Steady state after several 72 hr. applications. Following removal monitor for 24-36 hrs. due to slow elimination. Transmucosal fentanyl available for pre-anesthesia and procedure related pain in children. (See text) Note: Fentanyl doses are expressed as microgram doses rather than milligram doses
Levorphanol (Levo-Dromoran®)	2 IM 4 PO	12-15	0.5-1.0	3-6	See morphine	Due to long half-life, accumulation occurs. Some suggest careful reevaluation after 5 half-lives.

TABLE VIII continued -3

Meperidine (Demerol®)	75ml 300 PO	2-3	0.5-1.0 1-2	3-4 3-4	See morphine. CNS excitation,	Not recommended in chronic cancer pain management because of toxic metabolite, normeperidine, which has a longer half-life than the parent compound, meperidine. Normeperidine is a CNS stimulant and may produce seizures. Contraindicated with MAO inhibitors and with renal insufficiency.
Methadone (Dolophine®)	10 IM 20 PO	15-36	0.5-1.5	4-6	See morphine	Risk of delayed toxicity due to accumulation; dosing should start on PR.N. basis with close monitoring.

TABLE VIII continued -4

Oxycodone (Roxicodone®; Percocet®, Roxicet®, Percodan®, Tylox®)	N/A IM 15-30mgs	2-3	1.5-2.0	2-4	See morphine	Single agent for severe pain. Available in liquid form.
Controlled release (Oxycontin®)	15-30mgs					Commercially available.
Partial Opioid Agonist						
Buprenorphine (Buprenex®)	0.3 IM	2-5	0.5-1.0	6-8	Same as morphine but less risk of respiratory depression.	May precipitate withdrawal in agonist opioid dependent patient. Has ceiling for analgesia. May be useful in opioid-naïve.
Mixed Opioid Agonist-Antagonist						
Butorphanol (Stadol)	2 IM	2-3	0.5-1.0	3-4	See Pentazocine; lower risk of psychotomimetic effects.	Available in transnasal formulation. No oral formulation. Not recommended for cancer pain management.
Nalbuphine (Nubain®)	10 IM	4-6	0.5-1.0	3-6	See Pentazocine; lower risk of psychotomimetic effects.	No oral formulation. Not recommended for cancer pain management.

TABLE VIII continued -5

Pentazocine (Talwin®; Talwin-Nx®; Talacen®)	60 IM 180 PO	2-3	1.5-1.0 1-2	3-6 3-6	See buprenorphine: greater risk for psychotomimetic effects.	Oral preparation may be combined with nalaxone (Talwin-NxR); Not recommended for cancer pain management. Can cause withdrawal in agonist opioid dependent; not recommended for cancer pain.
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1. Adapted from Portenoy, R. (1989). Three-step analgesic ladder for management of pain. Anesthesiology News, McMahon Medical News. AHCPR Guidelines for the Treatment of Cancer Pain (1992).
2. Dose of analgesic equivalent to 10 mgs IM morphine. The equivalent dose should not be interpreted as the starting, standard or maximum dose. Rather this should serve as a guide for switching medications or changing routes of administration. Dose titration is repeatedly necessary in nearly all patients with cancer pain.
3. In chronic dosing, extensive survey data suggest that the relative potency of IM:PO morphine of 1:6 changes to 1:2-3.
4. Controlled release morphine is available in 8-12 and 24 hr. interval dosing formulations.
5. Frequent re-evaluation of pain control is recommended. Best use for stable pain and in patient not able to take oral medications.
6. Additional opioids must always be prescribed for breakthrough pain.
7. Doses > Duragesic® 25ug/h should not be used in opioid naive.
8. Plasma half-life greatly exceed duration of analgesic effectiveness. Monitor for oversedation after 4-5 days and reduce dose or extend dose interval should sedation occur.

TABLE IX. ADJUVANT ANALGESICS

Rationale For Use	Indication	Preferred Drug	Dosing schedule	Starting Dose (mg/day)	Usual Daily Dose (mg/day)	Comments
Tricyclic Antidepressants						
Proven in a variety of non-malignant pain states	Continuous neuropathic pain. Pain complicated by depression or insomnia.	amitriptyline doxepin imipramine nortriptyline	qhs	10-25	50-150 (for pain) up to 300 (for depression)	If oversesated, trial of nortriptyline, desipramine. Cautious titration with concurrent opioid.
Anti-convulsants						
Extensive survey data suggesting use in lancinating (shooting) neuropathic pain.	Lancinating neuropathic pain.	carbamazepine phenytoin valproate clonazepam	q6-8h qhs q8h q12h	200 300 500 0.5	600-1600 300 750-2250 2-7	Serum levels useful in assessing potential toxicity
Oral Local Anesthetics						
Controlled studies in painful diabetic neuropathy.	Neuropathic pain.	mexiletine	q8h	450	600-900	Serum levels useful in assessing potential toxicity
Neuroleptics						
Anecdotal experience in continuous neuropathic pain.	Pain complicated by delirium or nausea; refractory neuropathic pain.	fluphenazine haloperidol methotrimeprazine	q8h q6-12h q6h	2 2 20	3-6 2-10 20-60	Not first-line. Methotrimeprazine is proven analgesic but no oral form; appears useful for terminal pain and agitation.

TABLE IX continued -2

Antihistamines					
Hydroxyzine analgesic in controlled trials of high parenteral pain.	Pain complicated by anxiety or nausea.	hydroxyzine	q6-q8	75	200
Corticosteroids					
Extensive anecdotal experience in the treatment of pain and other symptoms confirmed by a single controlled study of methylprednisolone.	Pain from infiltration of neural structures; bone pain; pain in patients with far-advanced disease.	dexamethasone	q6-q8	10-20 x 1 then 4 q6h or less	200
					Higher doses used in epidural cord compression; lower doses suggested by some authors. Dexamethasone has less mineralocorticoid effect.
Psychostimulants					
Clinical experience and controlled trials of dextroamphetamine in postoperative pain and methylphenidate in cancer pain, both demonstrating analgesic effects.	To reverse opioid-induced sedation.	methylphenidate dextroamphetamine	q6-q8	2x/day 2x/day	5 5
					May produce agitation in encephalopathic patients. Last dose of day should not be given after 12 noon.

TABLE IX continued -3

Miscellaneous							
Anecdotal reports	Refractory bone pain	L-dopa	q6-8h	200	1000-2000	Doses reflect combination with a decarboxylase inhibitor, e.g., carbidopa.	
Controlled study and anecdotal reports	Refractory bone pain.	calcitonin	q12h	200 IU	200-400		
Controlled studies and anecdotal reports	Refractory bone pain.	diphosphonate	-	-	-	Etidronate available in U.S.	
Controlled study in trigeminal and neuralgia.	Lancinating neuropathic pain.	baclofen	q8h	15	30-60		

1. Originally appeared in Anesthesiology News, copyrighted 1989, McMahon Medical News.

TABLE X - NONSTEROIDAL ANTI-INFLAMMATORY AGENTS

Generic Name	Brand Name	Dosage Forms	Dose Schedules	Dosage Range (Adults)	Excretion	Half-Life (hrs.)
Propionic Acids						
Ibuprofen	Motrin Advil Nuprin	Tab 200 mg 300 mg 400 mg 600 mg 800 mg	T.I.D.-O.I.D.	1200 mg- 3200 mg	50-75% renal	1.8-2.5
Fenoprofen	Nalfon	Cap 200 mg 300 mg 600 mg	T.I.D.-O.I.D.	2400 mg- 3200 mg	98% renal	2-3
Naproxen	Naprosyn	Tab 250 mg 375 mg 500 mg Susp. 125 mg/5ml Supp. 500 mg	B.I.D.	500 mg- 1250mg	95% renal	12-15
Naproxen NA	Anaprox	Tab 275 mg DS 550 mg	B.I.D.	500 mg- 1250mg	95% renal	12-15

TABLE X continued -2

Propionic Acids						
Ketoprofen	Orudis	Cap 50 mg 75 mg	T.I.D.	150 mg- 300 mg	50-90% renal 1-8% fecal	2-4
Carprofen	Rimadyl	Tab 100 mg 150 mg	B.I.D.-T.I.D.	100 mg- 300 mg	75% renal 12-20% fecal	12
Flurbiprofen	Ansaid	Tab 100 mg 150 mg	B.I.D.-T.I.D.	100 mg- 200 mg	65-85% hepatic	4-6
Acetic Acids						
Sulindac	Clinoril	Cap 100 mg 200 mg	B.I.D.	300 mg- 400 mg	50% renal 25% fecal	7-8- sulindac 18-sulfide
Etodolac	Lodine	Cap 200 mg 300 mg	T.I.D.-Q.I.D.	600 mg- 1200 mg	72% renal 16% fecal	6-7
Indomethacin	Indocin	Cap 25 mg 50 mg Supp. 50 mg Susp. 25 mg/5 ml IV 1 mg	B.I.D.-T.I.D.	50 mg- 200 mg	60% renal 30% fecal	4.5-6
Bromfenac	Duract	Cap 25mg	Q 6-8 hrs.	25 mg- 150 mg	80% renal	1-2

TABLE X continued -3

Generic Name	Brand Name	Dosage Forms	Dose Schedules	Dosage Range (Adults)	Excretion	Half-Life (hrs.)
Acetic Acids						
Indomethacin-Sustained Release	Indocin SR	Cap 75 mg	Q.D.-B.I.D.	75 mg-150 mg	60% renal 30% fecal	4.5-6
Tolmetin	Tolmetin	Tab 200 mg Cap DS 400 mg	T.I.D.-Q.I.D.	600 mg-2000 mg	all renal	1-1.5
Fenamates						
Mefenamic Acid	Ponstel	Cap 250 mg	T.I.D.-Q.I.D.	500 mg-1000 mg	67% renal 20-25% fecal	2-4
Meclofenamate	Meclofenamate	Cap 50 mg 100 mg	T.I.D.-Q.I.D.	200 mg-400 mg	67% renal 33% fecal	2-3.3
Oxicams						
Piroxicam	Feldene	Cap 10 mg 20 mg	Q.D.	10 mg-30 mg	67% renal 33% fecal	30-86

TABLE X continued -4

Phenylacetic Derivative						
Diclofenac	Voltaren	Tab 25 mg 50 mg 75 mg	B.I.D.-T.I.D.	75 mg- 150 mg	65% renal 35% fecal	1-2
Pyrol-Pyoole						
Ketorolac Trimethamine	Toradol	IM INJ 15 mg 30 mg 60 mg	O.I.D.	100 mg- 300 mg	91% renal 6% fecal	3-8-6.3 yg. adults (4.7-8.6 elderly)
Salicylates						
Aspirin	generic	Tab chew tabs gum, Enteric, Supp.	Q.4-hrs.	300 mg- 4000 mg	all renal	6-12
Diflunisal	Dolobid	Tab 250 mg 500 mg	B.I.D.-T.I.D.	500 mg- 1000 mg	90% renal <5% fecal	8-12
Nonacetylated Salicylate						
Choline- magnesium Salicylate	Trilisate	Tab 500 mg 750 mg 1000 mg LIQ 500 mg/5ml	B.I.D.-T.I.D.	1000 mg-4500 mg salicylate	all renal	6-12
Salsalate	Disalcid	Tab 250 mg	B.I.D.-T.I.D.	2000 mg- 4000 mg	all renal	6-12

APPENDIX A

Pain Assessment Tools

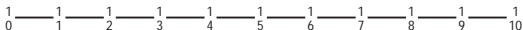
PAIN INTENSITY RATING SCALES

Visual Analogue Scale



Directions: Ask the patient to indicate on the line where the pain is in relation to the two extremes. Measure from the left hand side to the mark

Graphic Rating Scale

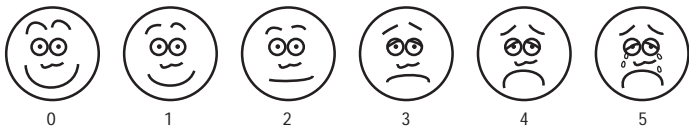


Verbal Rating Scales

0 = NO PAIN
10 = WORST POSSIBLE PAIN

0 = NO PAIN
100 = WORST POSSIBLE PAIN

Pain Faces Scale



- 0 = VERY HAPPY, NO HURT
- 1 = HURTS JUST A LITTLE BIT
- 2 = HURTS A LITTLE MORE
- 3 = HURTS EVEN MORE
- 4 = HURTS A WHOLE LOT
- 5 = HURTS AS MUCH AS YOU CAN IMAGINE
(Don't have to be crying to feel this much pain)

Faces Scale reprinted with permission from Wong D and Whaley L.F. "Clinical Handbook of Pediatric Nursing." St. Louis, CV Mosby Co. 1986.

APPENDIX A (Continued)

PAIN DISRUPTIVENESS SCALE

For each phrase listed below mark a ✓ at the place on the corresponding line that best shows how well that phrase describes the effects of your pain on your daily activities. **Be sure to make a mark for each phrase indicating the degree to which it describes your pain (ie: not at all, somewhat, or exactly.)**

	Does NOT describe my pain at all	Describes my pain exactly
Makes me want to give up		
My pain is all I can think about		
All I can do is lie in bed		
Can't do the things I feel I need to		
Can't go out		
Makes me irritable		
Can't do what I enjoy		
Keeps me awake		
Unable to eat		
Makes me tired		
Annoys me, but I can distract myself and go on		

Is there anything else you would like to tell us about your pain?

From: Nemni, Susan R.: A Psychophysical Methodology for the Development of Measurement Scales: The Qualification of the Qualities of Cancer Pain. Unpublished doctoral dissertation, Texas Christian University, December 1988.

APPENDIX A (Continued)

PAIN DISRUPTIVENESS SCALE

For each phrase listed below mark a ✓ at the place on the corresponding line that best shows how well that word or phrase describes your pain. **Please make a mark for each phrase indicating the degree to which it describes your pain (ie: not at all, somewhat, or exactly.)**

	Does NOT describe my pain at all	Describes my pain exactly
Throbbing		
Aching		
Sharp		
Shooting		
Pressure		
Cutting		
Stabing		
Cramping		
Sore to touch		
Like electric shock		
Burning		
Dull		
Stinging		
Knife like		
Bursts of pain		
Like being stuck with a needle		

Are there any other words that you would use to describe your pain?

From: Nemni, Susan R.: A Psychophysical Methodology for the Development of Measurement Scales: The Qualification of the Qualities of Cancer Pain. Unpublished doctoral dissertation, Texas Christian University, December 1988.

APPENDIX C

INTRACTABLE PAIN TREATMENT ACT

Sec.1. **SHORT TITLE.** This article may be cited as the Intractable Pain Treatment Act.

Sec. 2. **DEFINITIONS.** For the purpose of this Act:

(1) “Board” means the Texas State Board of Medical Examiners.

(2) “Physician” means a licensee of the Texas State Board of Medical Examiners.

(3) “Intractable pain” means a pain state in which the cause of the pain cannot be removed or otherwise treated and which in the generally accepted course of medical practice no relief or cure of the cause of the pain is possible or none has been found after reasonable efforts.

Sec. 3. **Prescription or administration of drugs by physician.**

Notwithstanding any other provision of law, a physician may prescribe or administer dangerous drugs or controlled substances to a person in the course of the physician’s treatment of the person for intractable pain.

Sec. 4. **Restriction by hospital or health care facility of prescribed drug use prohibited.** No hospital or health care facility may forbid or restrict the use of dangerous drugs or controlled substances when prescribed or administered by a physician having staff privileges at that hospital or health care facility for a person diagnosed and treated by a physician for intractable pain.

Sec. 5. **Disciplinary action against physician for prescribing or administering drug treatment prohibited.**

No physician may be subject to disciplinary action by the board for prescribing or administering dangerous drugs or controlled substances in the course of treatment of a person for intractable pain.

Sec. 6. **Application of act to chemically dependent persons.**

(a) The provisions of the Act shall not apply to those persons being treated by the physician for chemical dependency because of their use of

dangerous drugs or controlled substances.

(b) The provisions of this Act provide no authority to - a physician to prescribe or administer dangerous drugs or controlled substances to a person the physician knows or should know to be using drugs for nontherapeutic purposes.

Sec. 7. Cancellation, revocation or suspension of physician's license.

Nothing in this Act shall deny the right of the Texas State Board of Medical Examiners to cancel, revoke, or suspend the license of any physician who:

(1) prescribes or administers a drug or treatment that is nontherapeutic in nature or nontherapeutic in the manner the drug or treatment is administered or prescribed;

(2) fails to keep complete and accurate records of purchases and disposals of drugs listed in the Texas Controlled Substances Act (Chapter 481, Health and Safety Code), or of controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970, 21 U.S.C.A. Section 801 et seq. (Public Law 91- 513). A physician shall keep records of his purchases and disposals of these drugs to include the date of purchase, the sale or disposal of the drugs by the physician, the name and address of the person receiving the drugs, and the reason for the disposal of or the dispensing of the drugs to the person;

(3) writes false or fictitious prescriptions for dangerous drugs as defined by Chapter 483, Health and Safety Code for controlled substances scheduled in the Texas Controlled Substances Act (Chapter 481, Health and Safety Code), or for controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970, 21 U.S.C.A. Section 801 et seq. (Public Law 91-513); or

(4) prescribes, administers, or dispenses in a manner not consistent with public health and welfare dangerous drugs as defined by Chapter 483, Health and Safety Code, controlled substances scheduled in the Texas Controlled Substances Act (Chapter 481, Health and Safety Code), or controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970, 21 U.S.C.A. Section 801 et seq. (Public Law 91-513).

Acts 1989, 71 st Legislature, First Called Session, Ch. 5, Sec. 1, effective November 1, 1989. Codified at Article 4495c Vernon's Civil Statutes.

APPENDIX D

AMENDMENT TO THE INTRACTABLE PAIN TREATMENT ACT

AN ACT relating to a physician's treatment of acute or chronic pain.
BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 6, Article 4495c, Revised Statutes, is amended to read as follows:

Sec. 6. APPLICATION OF ACT TO CHEMICALLY DEPENDENT PERSONS.

(a) Except as provided by Subsection © of this section, the [The] provisions of this Act shall not apply to those persons being treated by the physician for chemical dependency because of their use of dangerous drugs or controlled substances.

(b) The provisions of this Act provide no authority to a physician to prescribe or administer dangerous drugs or controlled substances to a person for other than legitimate medical purposes as defined by the board and who the physician knows or should know to be using drugs for nontherapeutic purposes.

(c) The provisions of this Act authorize a physician to treat a patient who develops an acute or chronic painful medical condition with a dangerous drug or a controlled substance to relieve the patient's pain using appropriate doses, for an appropriate length of time, and for as long as the pain persists. A patient under this subsection includes a person who:

- (1) is a current drug abuser;
 - (2) is not currently abusing drugs but has a history of drug abuse; or
 - (3) lives in an environment that poses a risk for drug misuse or diversion of the drug to illegitimate use.
- (d) A physician who treats a patient under Subsection © of this section shall monitor the patient to ensure the prescribed dangerous drug or controlled substance is used only for the treatment of the patient's painful medical condition. To ensure the prescribed dangerous drug or controlled

substance is not being diverted to another use and the appropriateness of the treatment of the patient's targeted symptoms, the physician shall:

(1) specifically document:

- (a) the understanding between the physician and patient about the patient's prescribed treatment;
- (b) the name of the drug prescribed;
- (c) the dosage and method of taking the prescribed drug;
- (d) the number of dose units prescribed; and
- (e) the frequency of prescribing and dispensing the drug; and

(2) consult with a psychologist, psychiatrist, expert in the treatment of addictions, or other health care professional, as appropriate.

SECTION 2. Section 7, Article 4495c, Revised Statutes, is amended to read as follows:

Sec. 7. CANCELLATION, REVOCATION OR SUSPENSION OF PHYSICIAN'S LICENSE. Nothing in this Act shall deny the right of the Texas State Board of Medical Examiners to cancel, revoke, or suspend the license of any physician who:

(1) prescribes, [or] administers, or dispenses a drug or treatment for other than legitimate medical purposes as defined by the board and that is non-therapeutic in nature or nontherapeutic in the manner the drug or treatment is administered or prescribed;

(2) fails to keep complete and accurate records of purchases and disposals of drugs listed in the Texas Controlled Substances Act (Chapter 481, Health and Safety Code), or of controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970, 21 U.S.C.A. Section 801 et seq. (Public Law 91-513), including records of:[. A physician shall keep records of his purchases and disposals of these drugs to include]

- (a) the date of purchase;[.]
- (b) the sale or disposal of the drugs by the physician;[.]
- (c) the name and address of the person receiving the drugs;[.] and

(d) the reason for the disposal of or the dispensing of the drugs the person;

(3) writes false or fictitious prescriptions for dangerous drugs as defined by Chapter 483, Health and Safety Code, for controlled substances scheduled in the Texas Controlled Substances Act (Chapter 481, Health and Safety Code), or for controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970, 21 U.S.C.A. Section 801 et seq. (Public Law 91-513); or

(4) prescribes, administers, or dispenses in a manner not consistent with public health and welfare dangerous drugs as defined by Chapter 483, Health and Safety Code, controlled substances scheduled in the Texas Controlled Substances Act (Chapter 481, Health and Safety Code), or controlled substances scheduled in the federal Comprehensive Drug Abuse Prevention and Control Act of 1970, 21 U.S.C.A. Section 801 et seq. (Public Law 91-513).

SECTION 3. Article 4495c, Revised Statutes, is amended by adding Section 8 to read as follows:

Sec. 8. **ILLEGAL SUBSTANCES.** This Act is not intended nor shall it be interpreted to allow for the prescription of any illegal substance to any patient or person at any time in violation of federal law.

SECTION 4. This Act takes effect September 1, 1997, and applies only to a dangerous drug or controlled substance prescribed by a physician on or after that date. A dangerous drug or controlled substance prescribed by a physician before the effective date of this Act is governed by the law in effect on the date the drug or controlled substance was prescribed, and the former law is continued in effect for that purpose.

APPENDIX E

RULE OF THE TEXAS STATE BOARD OF MEDICAL EXAMINERS

Note: It is imperative that any physician, and his/her lawyer, who is charged with inappropriate prescribing of analgesic drugs, and therefore in violation of the Medical Practice Act, for the treatment of pain be familiar with these rules.

Chapter 170. AUTHORITY OF PHYSICIAN TO PRESCRIBE FOR THE TREATMENT OF PAIN.

§170.1 Purpose

The purpose of this chapter is to recognize that some dangerous drugs and controlled substances listed in Chapter 481 and 483 of the Texas Health and Safety Code are indispensable for the treatment of pain, and are useful for relieving and controlling many other related symptoms that patients may suffer. It is the position of the board that these drugs may be prescribed for the treatment of pain and other related symptoms after a reasonably based medical diagnosis has been made, in adequate doses, and for appropriate lengths of time, which in some cases may be as long as the pain or related symptoms persist. The board recognizes that pain, including intractable pain, and many other related symptoms are subjective complaints and that the appropriateness and the adequacy of drug and dose will vary from individual to individual. The practitioner is expected to exercise sound medical judgement in treating pain and related symptoms with dangerous drugs and controlled substances.

Source: The provisions of this §170.1 adopted to be effective April 7, 1995, 20 TexReg 2211.

§170.2 Definitions

The following words and terms, as used in the Medical Practice Act, Article 4495b, 3.08, shall have the following meanings in the context of providing medications for pain and related symptoms.

Abuser of narcotic drugs, controlled substances and dangerous drugs—A person who takes a drug or drugs for other than legitimate medical purposes.

Intractable pain—A pain state in which the cause of the pain cannot be removed or otherwise treated and which in the generally accepted course of medical practice no relief or cure of the cause of the pain is possible or none has been found after reasonable efforts. Non-therapeutic in nature or manner—A medical use or purpose that is not legitimate.

Prescribing pharmaceuticals or practicing consistent with the public health and welfare—Prescribing pharmaceuticals and practicing medicine for a legitimate medical purpose in the usual course of professional practice.

Source: The provisions of this §170.2 adopted to be effective April 7, 1995, 20 TexReg 2211.

§170.3 Guidelines

The Texas State Board of Medical Examiners will use the following guidelines to determine whether a physician's conduct violates the Medical Practice Act, §3.08(4)(E), 3.08(4)(F), and 3.08(18), in regard to the prescribing, administering, ordering, or dispensing of pain medications and other drugs necessary to address their side effects.

(1) The treatment of pain, including intractable pain, with dangerous drugs and controlled substances is a legitimate medical purpose when done in the usual course of professional practice.

(2) A physician or surgeon duly authorized to practice medicine in Texas and to prescribe controlled substances and dangerous drugs in this state shall not be subject to disciplinary action by the board for prescribing, ordering, administering, or dispensing dangerous drugs or controlled substances for the treatment and relief of pain, including intractable pain, in the usual course of professional practice for a legitimate medical purpose in compliance with applicable state and federal law.

(3) Prescribing, ordering, administering, or dispensing dangerous drugs or controlled substances for pain will be considered to be for a legitimate medical purpose if based upon accepted scientific knowledge of the

treatment of pain, including intractable pain, not in contravention of applicable state or federal law, and if prescribed, ordered, administered, or dispensed in compliance with the following guidelines where appropriate and as is necessary to meet the individual need of the patient:

(A) After a documented medical history, which may be provided orally or in writing by the patient, and physical examination by the physician providing the medication including an assessment and consideration of the pain, physical and psychological function, any history and potential for substance abuse, coexisting diseases and conditions, and the presence of a recognized medical indication for the use of a dangerous drug or controlled substance;

(B) Pursuant to a written treatment plan tailored for the individual needs of the patient by which treatment progress and success can be evaluated with stated objectives such as pain relief and/or improved physical and psychosocial function. Such a written treatment plan shall consider pertinent medical history and physical examination as well as the need for further testing, consultations, referrals, or use of other treatment modalities;

(C) The physician should discuss the risks and benefits of the use of controlled substances with the patient or guardian;

(D) Subject to documented periodic review of the care by the physician at reasonable intervals in view of the individual circumstances of the patient in regard to progress toward reaching treatment objectives which takes into consideration the course of medications prescribed, ordered, administered, or dispensed as well as any new information about the etiology of the pain;

(E) Complete and accurate records of the care provided as set forth in subparagraphs (A)-(D) of this paragraph should be kept. When controlled substances are prescribed, names, quantities prescribed, dosages, and number of authorized refills of the drugs should be recorded, keeping in mind that pain patients with a history of substance abuse or who live in an environment posing a risk for medication misuse or diversion require special consideration. Management of these patients may require closer monitoring by the physician managing the pain and consultation with appropriate health care professionals.

(4) A decision by a physician not to strictly adhere to the provisions of paragraph (3) of this section will, for good cause shown, be grounds for the

board to take no disciplinary action in regard to the physician. Each case of prescribing for pain will be evaluated on an individual basis. The physician's conduct will be evaluated to a great extent by the treatment outcome, taking into account whether the drug used is medically and/or pharmacologically recognized to be appropriate for the diagnosis, the patient's individual needs including any improvement in functioning, and recognizing that some types of pain cannot be completely relieved.

(5) If the provisions as set out in paragraphs (1)-(4) of this section are met, and if all drug treatment is properly documented, the board will consider such practices as prescribing in a therapeutic manner, and prescribing and practicing medicine in a manner consistent with public health and welfare.

(6) Quantity of pharmaceutical and chronicity of prescribing will be evaluated on the basis of the documented appropriate diagnosis and treatment of the recognized medical indication, documented persistence of the recognized medical indication, and properly documented follow-up evaluation with appropriate continuing care as set out in this chapter.

(7) A physician may use any number of treatment modalities for the treatment of pain, including intractable pain, which are consistent with legitimate medical purposes.

(8) These rules shall be construed so as to apply to the treatment of acute pain with dangerous drugs or controlled substances for purposes of short-term care.

Source: The provisions of this §170.3 adopted to be effective April 7, 1995, TexReg 2211.

APPENDIX F

A Bill of Rights for People With Cancer Pain

It is estimated that over one million people in the U.S. are suffering from cancer pain at this moment. Although effective treatments for pain do exist, many people are reluctant to use them. Why is that so? Unfortunately, health care professionals may not be trained in modern pain relief methods. Also, the use of drugs for pain relief is often confused with the abuse of drugs for recreation. Many patients have difficulty describing their pain, as well as finding someone who can help relieve it. For these and other reasons, many people suffer unnecessarily.

This Bill of Rights for People with Cancer Pain was developed to encourage patients, their loved ones and caregivers to learn the facts about pain and its treatment. Knowledge, good communication, and caring are needed to ensure the best pain relief available.

1. I have the right to have my pain believed by health professionals, family, friends and others around me.

The person in pain is the only one who knows how much pain he or she has. Patients should always be encouraged to report and describe their pain as accurately as possible. Health professionals need to acknowledge that stoicism, reluctance to take drugs, cultural differences, feelings of resignation and other factors often inhibit patients from talking about their pain. Health professionals and patients need to work together to identify and remove these obstacles so that pain can be accurately assessed.

2. I have the right to have my pain controlled, no matter what its cause or how severe it may be.

Pain must be understood, as well as believed. In recent years, major advances have been made in understanding cancer pain and its effective treatment. People with cancer should expect their health-care team to seek all information and resources necessary to make patients as comfortable as possible.

3. I have the right to be treated with respect at all times. When I need medication for pain, I should not be treated like a drug abuser.

Health professionals, the public, law enforcement agents, and even people in pain often believe that using pain-relieving drugs will lead to addiction. Yet this almost never happens. The abuse of drugs is unrelated to the use of drugs for cancer pain treatment. It is normal to want to be comfortable, it is a way of taking care of yourself.

Many of us are fearful about pain medications because we don't know the facts. Health professionals should be expected to know the facts about narcotics and other pain treatments. It is the responsibility of the health care team to help patients and families understand that fears about addiction, sedation and other side-effects are understandable, but often exaggerated. Most side-effects of pain medications are treatable, and should never be used as a reason to discontinue treatment for pain.

4. I have the right to have pain resulting from treatments and procedures prevented, or at least minimized.

The treatment of cancer often includes painful tests and procedures. Patients should not be told that pain from treatments is "unavoidable", or that "it won't last long." Pain is suffering, no matter how long it lasts. Worrying about future painful treatment is also suffering. The health-care team must make sure patients know what to expect when undergoing any procedure and prevent or minimize procedure pain as much as possible.

From: Cancer Care, Inc., in cooperation with the Iowa and Wisconsin Cancer Pain Initiatives.

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