Medications and Chronic Pain

Dosing Analgesics and Co-analgesics in Chronic Pain
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Guidelines for pharmacologic pain management are almost intuitive, yet published recommendations are inconsistently applied by licensed providers (Martelletti & Giacovazzo, 1996). Initial pharmacologic therapy should be:

a. Initiated at the lowest reasonable dose,
b. Only single drug changes should be made, and
c. Upward dose-titration should occur until maximum relief is obtained or unmanageable side effects occur.

The temporal character, duration and intensity of pain will determine which medication and dose is appropriate. Temporal character is commonly regarded as episodic or continuous. Therapeutic trial results call for continued administration of the analgesic or co-analgesic medication if functionality improves, pain perception is diminished and side effects are tolerable. If pain scores or functionality do not improve with therapy, be it pharmacologic interventional or psychologic, it should be deemed "ineffective" and withdrawn from the therapeutic milieu.

Opioids remain the "gold standard" for management of moderate to severe pain. The oral route is considered superior to intradermal, transdermal, intramuscular, intravenous or intrathecal in light of low cost, convenience and patient preference.

The pharmacologic condition of opioid dependence usually develops several days after around the clock administration has begun. The pharmacologic condition of opioid tolerance may not develop for months to years, if ever. With the notable exception of constipation, it is also normal to develop tolerance to common side effects like sedation, itching, urinary hesitancy, confusion, respiratory depression and nausea. Addiction behavior with opioids as the drug of choice is a maladaptive, obsessive psychologic behavior, not a pharmacologic trait of the preferred medication (Savage, 2001).

Many physicians, while acknowledging the importance of Food and Drug Administration (FDA) indications and guidelines, prescribe medications outside the published or approved guidelines in order to gain clinical benefit from a pharmacologic property that may not have been exhaustively tested during FDA approval protocols. This practice is called "off label prescribing." It is legal but, when medication is used in this way, the patient and physician are both advised to agree to the practice. Antidepressants, anticonvulsants, antiarrhythmics and others are commonly prescribed "off label" when treating chronic pain of central
or peripheral neuropathic origin.

**Pain Periodicity Determines Dosing of Medications**

Episodic pain of somatic origin may be best treated with orally administered, immediate-release opioids (IROs) such as oxycodone, hydrocodone, codeine, or morphine. Codeine is a moderately effective analgesic at higher doses but it may induce more side effects than other analgesics. IROs exhibit rapid onset of action. Propoxyphene may be useful occasionally but it has very low potency and may offer little more relief than NSAIDs for relief of mild to moderate pain. Most propoxyphene formulations are combined with acetaminophen. Potentially cardiotoxic metabolite accumulation and acetaminophen toxicity further hinder long-term, high dose propoxyphene prescriptions, especially in the elderly. Meperidine (Demerol) is usually not administered chronically due to potential metabolite toxicity, protracted adverse effects and addiction potential (Kaiko, 1983).

Continuous pain or nearly constant pain is usually best treated with longer acting agents or sustained-release opioid formulations (SROs), often in combination with shorter acting drugs for breakthrough pain (rescue doses). Morphine and oxycodone are available as sustained-release preparations (MS Contin and Oxycontin). These products are designed to dissolve slowly and thereby provide extended duration of action. Although the package inserts for these drugs states that intended dosing is every 12 hours, the actual duration of effect may be shorter. Methadone is a potent Mu agonist with good oral bioavailability, slow elimination and prolonged effect once steady state is achieved. Methadone is much less expensive than sustained-release, patented opioid formulations (Davis, 2001). Extended duration analgesia is also available from transdermal fentanyl patches (Duragesic). These are designed to last 72 hours and can be useful in patients who cannot tolerate opioids by mouth or those patients with severe renal compromise. This route of administration may also improve compliance and possibly reduce abuse. Drawbacks include considerable expense and the fact that the smallest available patch (25 μg/hr) may be too potent for many patients. A smaller patch is reportedly planned to address this concern (Donner, 2002).

**Rescue dosing** warrants mention. For pain "incident to" (as a result of) unusual activity (breakthrough or recurrent pain), supplemental doses of analgesic or co-analgesic may be necessary. Rescue doses of IROs are usually prescribed at about 10 percent of the daily dose of SRO and given every three to eight hours as needed. Rescue dosing may give a patient a sense of self-control over chronic pain. Rescue dosing also allows the patient to adjust the amount of medication used as symptoms wax and wane (life is never static).

**Non-opioids for Pain Management (Co-analgesics)**

*Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)* enjoy enormous prescriptive
popularity for mild to moderate pain (Visual Analog Pain Score 3-6/10). The World Health Organization Analgesic Progression Ladder advises Tier 1 as Physical Modalities and Tier 2 as non-steroidal anti-inflammatory drugs. Over-the-counter (OTC) formulations of ibuprofen, naproxen, aspirin, acetaminophen and ketoprofen provide the foundation for almost all personally directed pain relief in the U.S. Like their prescription strength counterparts, improper use of OTCs may be associated with severe consequences. All NSAIDs carry warnings for gastric ulceration, hepatic dysfunction, asthma, bleeding, swelling, heart failure and renal insufficiency (Bombarier, 2000). These risks rise dramatically whenever concurrent alcohol and or tobacco use occurs. When faced with pain complaints by patients having kidney, heart, liver or lung disease, caution and frequent reassessment are warranted during NSAID therapy. Drug interactions should be remembered for patients on anticoagulants, antihypertensives (some diuretics, betablockers and angiotensin converting enzyme inhibitors). NSAIDs are most effective for skeletal pain, post-surgical, inflammatory muscle or joint pain, migraine and pelvic pain. There have been few reports of benefit for treatment of fibromyalgia, ischemia, RSD or neuropathy. Concurrent administration with opioids and non-opioid co-analgesics for chronic pain may result in opioid sparing, increased efficacy and diminished opioid side effects.

Anti-depressants are first line drugs to reduce the burning character of neuropathic pain. 50-75 percent of neuropathy patients report reduction of the burning quality of their pain with the addition of tricyclic antidepressants (TCADs). Perhaps this effect occurs because they partially mimic the effect of local anesthetics by blocking sodium channels in the area of spontaneously firing nerves. Central neuroreceptor specificity is minimal, so side effects mediated via cholinergic, histaminergic and adrenergic receptors are common. Consequently, TCAD regimens may also be associated with sedation, dry mouth, headache, constipation, and light-headedness (Savage, 2001) or (Marcus, 2000).

Though less effective than TCADs, certain selective serotonin reuptake inhibitors (SSRIs) have been shown to reduce neuropathic discomfort, as well as improve depression, insomnia and anxiety associated with chronic pain. Cholinergic and histaminergic side effects are less common for SSRIs than TCADs (Max, 1992).

**Anticonvulsants** have a major role in lancinating neuropathic pain management (McQuay, 1995). Gabapentin has proven effective for diabetic peripheral neuropathy, post herpetic neuralgia, HIV related neuropathy and traumatic neuropathies with a remarkable absence of persistent side effects (Bakonja, 2003). Carbamazepine, oxcarbamazipine, tigabine, zonisamide, topiramate, valproic acid, lamotrigine and Baclofen are also valuable adjuvants for neuropathic pain (Sindrup, 1999).

**Systemic local anesthetics** may occasionally be useful in refractory neuropathic pain control. Lidocaine-analog mexiletine may dramatically reduce the stinging and burning of central pain but a trial infusion of lidocaine is
suggested prior to initiating therapy (Nascimento, 2003).

Topical local anesthetic gels of lidocaine (alone or as admixtures) have been useful adjuvants for diabetic, post-herpetic and drug-induced peripheral neuropathies.

Phenothiazines possess mild anti-emetic and anti-anxiety properties, for example hydroxyzine. Although they may reduce nausea and briefly potentiate opiate-induced sedation, it is not clear that they improve analgesia. Protracted use is not advised due to tardive dyskinesia, hypotension, sedation and confusion. Neuroleptic agents such as haloperidol (Haldol) or fluphenazine (Prolixin) are probably not efficacious for non-malignant pain.

Muscle relaxants (muscle tone modulators) are over prescribed for chronic pain symptoms, for the most part. Myalgia (muscle pain) may be associated with post surgical syndromes, rheumatoid syndromes, fibromyalgia, and dystonia syndromes. Rest, smoking cessation, weight management, physical therapy and exercise are indicated primary therapies. Cyclobenzeprine (Flexeril), a cogener of tricyclic anti-depressants without direct effect on muscle tone, is indicated only for brief use for acute spasm. Chronic use is expensive and only partially effective. Carisoprodal (Soma) does not directly relax muscles. Benefit, if any, is probably attributable to its sedative effects. A metabolite similar to meprobamate may account for reports of dependence and addiction. Methocarbamol (Robaxin) is also a central nervous system sedative indicated for acute muscle spasm management by intravenous oral administration. Metaxolone (Skelaxin) has no direct action on muscle tone. It, too, is probably effective due to central nervous system depression. Persistent prescription of "muscle relaxers" has virtually no role in chronic pain management.

Painful spasm associated with spasticity is entirely different clinical concern. Typical anti-spasmodic management includes sustained administration of dantrium (Dantrolene), baclofen (Lioresal) or tizanidine (Zanaflex).

Benzodiazepines are indicated for reduction of anxiety and agitation. Prolonged use, as a co-analgesic for neuropathic pain or somatic pain is not warranted. Benzodiazepines are sedative hypnotics that have the potential for physical dependence as well as an ant-analgesic effect presumed to be related to central nervous system serotonin depletion. Co-administration of chronic benzodiazepines and opioids frequently results in impaired cognitive function and diminished motivation without reduced pain scores, improved functionality or better sleep. Benzodiazepines do not provide significant muscle spasm relief unless given in sedative doses.

Miscellaneous

Frequent topical applications of capsaicin cream, a pepper extract, will modulate
the intradermal activity of Substance P, a peripheral and central pain modulator, causing lowered perception of peripheral neuropathic discomfort once the initial intense burning subsides. If neuropathy is accompanied by sympathetic system hyper-reactivity, nasal calcitonin (Miacalcin) may be tried empirically. The mechanism of therapeutic improvement has not been identified. Other than financial concern over cost, side effects are infrequent (Gobelet, YEAR). Prazocin (Minipress), an alpha-adrenergic antagonist, has been shown to occasionally reduce pain of RSD origin. Clonidine (Catapres), an alpha-2 antagonist has also been helpful for intractable RSD and neuropathy pain. Expect hypotension from prazocin or clonidine at higher doses (Schwartzmann, 2001). Calcium-channel blockers have not proven as useful for RSD pain.

Tramadol (Ultram) is an atypical-narcotic analgesic with demonstrated safety in the U.S. and Europe. Tramadol weakly binds the Mu narcotic receptor plus inhibits norepinephrine and serotonin reuptake. It may be useful for mild to moderate discomfort, especially neuropathic pain varieties. Its analgesic effect appears related to activity at spinal cord adrenergic receptors. In this way, it is similar to analgesic effects of certain tricyclic antidepressants. The maximum recommended dose is 100 mg four times a day (qid) but dysphoric side effects often necessitate lower starting doses (50 mg qid). Risk of overdose or abuse is low. Abstinence syndromes have been reported, so the drug should not be terminated quickly, especially at higher doses (Preston, 1992). Large doses of tramadol should be avoided in patients taking TCADs or drugs that reduce the seizure threshold (Barbano, 2003).

Opioid Analgesics for Pain Management

When other remedies have failed to relieve or reduce chronic pain, it is appropriate to consider the use of opioid analgesics. While opioids may be less effective in the treatment of neuropathic pain than other types of pain, they will often have some usefulness and should be considered (Ballantyne, 2003).

Initiating opioids therapy requires drug selection and dose to be used, as well as the route of delivery. Most narcotic agents in clinical use can be divided into two broad categories- Mu receptor agonists or agonist/antagonists and partial agonists:

Mu (μ) Receptor Agonists: Agents that activate the Mu opioids receptors (μ agonists) to relieve pain are most familiar to clinicians. By stimulating the Mu (μ) receptor these drugs will produce most of the familiar effects (and side effects) of opioids. These drugs include the most commonly prescribed opioids, including morphine, hydrocodone, meperidine, hydromorphone, methadone and oxycodone. They vary widely in their potency, duration of effect and route of administration and metabolism/excretion. This class of opioids is generally the most appropriate choice for initiating opioid therapy. Propoxyphene binds to the Mu receptor but it has very low potency. Codeine is a weak analgesic relative to
its capacity for nausea and constipation. Neither propoxyphene nor codeine are recommended for chronic pain management.

**Agonist/ Antagonists and Partial Agonists:** Other broad classes of agents that may be considered are the agonist/antagonists and partial agonists. The agonist/antagonist drugs generally have the effect of stimulating Kappa opioid receptors (κ agonists) but blocking Mu receptors (μ antagonists). They drugs will have limited analgesic effect (ceiling effect) and general applicability in the treatment of chronic pain is rare. Some clinicians favor these drugs in the generally misguided belief that they are less abusable. These drugs should not be given to patients already receiving substantial doses of Mu agonist drugs, as concurrent use may precipitate acute abstinence/ withdrawal symptoms. Examples of this class include pentazocine (Talwin), butorphanol (Stadol) and nalbuphine (Nubain).

Partial agonists such as buprenorphine (Buprenex) and dezocine (Dalgan) are similar to the agonists/ antagonists and generally have limited use in the treatment of chronic pain. Use of partial agonists concurrently with substantial doses of Mu agonist analgesics may produce unexpected acute abstinence/ withdrawal symptoms and should be avoided (Hoskins, 1991). It is difficult to predict what initial dose of opioid will be required for any particular patient as individual requirements vary widely. Most treatment regimens will start with an IRO preparation in combination with a non-steroidal analgesic, i.e., hydrocodone/acetaminophen (5mg/350mg to 7.5/500) given 3 to 4 times per day and titrated to analgesic effect or adverse effect intolerance. When adequate pain control is achieved, the total dose of IRO may be converted to an equivalent total daily dose of SRO preparation (Pereira, 2001). Typically, sustained release formulations are non-generic and subsequently considerably more expensive. Methadone is a long-acting, generic alternative that may be started at a dose of about 5 mg three times daily and titrated to effect.

Co-analgesic medication concurrent dose titration should balance desired clinical effect against adverse effects. Whenever possible, titrate one drug at a time. Monthly or bi-weekly visits may be warranted during dose ramp-up or ramp-downs. Titration of multiple medications or concurrent disease states may prolong time to stable dosing. Once stable dosing is established, follow-up visits on 30 to 90 day intervals are reasonable. Consultation requests for management validation, recommendations and co-management strategies are usually annual.

**Managing opioid side effects**

Non-pharmacologic efforts should include explanations of expected side effects, avoidance of sudden or abrupt movement, hydration, small frequent meals, reassurance, and stress reduction (Cherney, 2001).

Most opioid-induced side effects will generally subside with time, with the
regrettable exception of constipation. In the absence of distressing side effects, the doses may be increased as needed. For more consistent relief of chronic pain, around-the-clock (ATC) dosing is preferable to on-demand (PRN) dosing. Reasonable responses should be expected. For many patients, no dose of opioids would be sufficient to eliminate all of their pain. Optimal analgesic dose varies widely among patients. Relentless escalation of opioid doses in search of complete pain relief may result in patients taking very large amounts of medicine with little or no enduring improvement in symptoms. Most practitioners generally aim for a medication dose regimen that:

   a. Reduces pain to tolerable levels  
   b. Provides improved function, and  
   c. Yields controlled side effects

**Pruritis (Itching):** Opioids directly stimulate receptors on mast cells (basophils). Upon receptor binding, histamine release may cause itching. This symptom usually abates spontaneously after a few days. However, intolerable symptoms are managed by administering anti-histaminic medication. Phenothiazines are the most common choices for intermittent itch control. Topical antihistamines creams may also play a supportive role in overall symptom management.

**Nausea and Vomiting:** Anti-emetic strategies should remove or reduce the reactive stimuli like anxiety, unrelieved pain, bowel atony and opioid tolerance. Opioid blood levels may activate the brain-stem nuclei known as the Chemotactic Trigger Zone (CTZ) in about 30 percent of patients when narcotic therapy is initiated. Nausea and vomiting stimuli may be induced, especially with contributing factors such as ileus, motion sensitivity or anxiety, are present. Since dopamine is the primary neurotransmitter in the CTZ, consider dopamine antagonists for anti-emetic therapy. Phenothiazines are the least expensive and they provide highest likelihood of relief. Refractory nausea may respond to Serotonin 3 Receptor antagonists. These medications are also effective but cost and unproven efficacy for opioid-induced nausea are deterrents to empiric use.

**Genito-Urinary Disturbance:** Opioids may contribute to urinary retention by increasing bladder sphincter tone, especially in elderly men. Co-analgesic medications like tricyclic antidepressants can worsen this opioid trait through inherent anticholinergic effects. Calcium channel blockers or alpha ( )-adrenergic blockers may improve the ability to initiate urination. Libido reduction after introduction of opioid therapy is infrequent and seldom persistent. Early reassurance should be followed by urology or endocrine consultations for persistent complaints.

**Cognitive Impairment (Sedation):** Alterations of mental status may occur with initiation or upward titration of moderate to high dose opioids for severe pain. Unusual perceptions, hallucinations, agitation, anxiety, clouded mentation and whimsical judgment could be related to dose, toxicity or metabolite accumulation.
Underlying physiologic causes and drug-to-drug interactions should be investigated if medication or dose-scheme changes fail to reverse the symptoms.

**Altered Appetite:** Appetite suppression is almost never intractable in the non-malignant pain setting. Opioid therapy may transiently alter taste perception, appetite and satiety but tolerance soon occurs. In the most stubborn cases, cannabinoids, alcohol-based tonics and androgenic agents may increase hunger and taste for food until tolerance obviates their continued use.

**Constipation:** Whenever opioid therapy is considered, bowel management should be part of the treatment plan. The same types of analgesic central nervous system opioid receptors are found in the bowel. Receptor binding in the bowel wall results in reduced bowel tone. Anticipation and early intervention minimize severe problems upon symptom presentation. Prophylactic bulk laxative agents and encouraged hydration are useful for almost all opioid-oriented bowel management regimens. Stool lubricants, surfactants and colon irritants (i.e., senna, etc.) are the next lines of intervention. Dose titration should occur for laxatives just as for opioids. Stubborn constipation demands the addition of osmotic agents such as lactulose, sorbitol or propylene glycol. Enemas should be reserved for short-term management of the most unrelenting constipation and stool impaction.

**Medication Regimen Compliance Verification:**

Considering the fact that Long Term Opioid Therapy (LTOT) may be the treatment option of last resort, it is vitally important to stress the risks, benefits, alternatives, expectations and complications of this modality early in the treatment process. Certain boundaries need to be discussed before a patient can provide informed consent for treatment that includes opiate therapy for chronic pain. Documentation and monitoring of compliance, according to most published State Medical Board Guidelines, is an integral part of reasonable pain control that includes opioid access.

Nothing substitutes for a thorough intake history and physical examination as well as periodic re-evaluations. Specific questions regarding personal and family drug abuse, arrests, addiction treatment and behavioral therapy should never be considered embarrassing. Unannounced pill counts may also help verify compliance with prescription regimen parameters.

Compliance monitoring under Medication Access Agreements (MAAs) is a three-way, co-operative process between a patient, physician and pharmacy. MAAs are intended to insure appropriate expectations, improve professional communication and legitimize the imposition of limits on capricious patient behavior. These documents stipulate conditions for the opioid prescriptive pattern. They usually include drug testing, professional collaboration and consequences of non-compliant patient behavior. Simple MAA compliance
verification tools include documented direct patient and family questioning, pill counts, inquiries to co-managing pharmacists and physicians, initial and random urine drug screens, photo identification for "pick-up" prescriptions, frequent clinical reassessment, and firm adherence to your own previously disclosed practice guidelines.

Drug screening may offer unique insight to patient compliance but results should be balanced by basic knowledge of drug elimination and test specificity. Random urine drug screens (UDS) at the first clinical visit for chronic pain complaints may be helpful when suspicions are aroused from the history and physical examination. Keep in mind that plasma levels of narcotics do not correlate with subjective levels of analgesia (Caplan, 2002). Random urine screens are helpful to determine whether the patient is even taking the prescribed medication. The presence of controlled substances other than those reported may also be noted on analysis reports. Accounting for the source of such "surprises" is the patient's responsibility.

A conversation with the toxicology testing laboratory director is strongly recommended so as to become familiar with measurement cutoff limits. Discuss which opioids are detected in the "toxicology/ drug screen" and which non-opioids will be detected. UDS requisition should specify what drugs are being prescribed and request Gas Column Chromatography (GCC) or Mass Spectrometry (MS) for certain opioids, i.e., Methadone, Fentanyl, Hydromorphone or Oxycodone. This information may reduce the likelihood of "false negative or positive" specimen reports. Close attention should be directed to the conditions under which specimens are obtained. Never ask a patient to "bring in" a sample; too much chance for falsification exists. Some medical reviewers suggest specimens should be obtained in a room without a sink or commode to avoid the possibility of a patient submitting a diluted or contaminated sample. Other clinicians put a coloring agent in the commode bowel to detect contamination or dilution. Hand washing should only occur after the sample has been surrendered to assigned staff. Obviously, valid samples always measure at body temperature. Specimen chain of custody regulations should be followed stringently.

**Interventional Techniques**

Consultation with an interventional pain specialist or surgeon is appropriate if basic modalities fail to provide reasonable, sustained relief. For pain arising from inflammation, systemic or epidural steroid injections are extremely useful on an episodic basis. Diagnostic blockade of selected spinal and peripheral nerves may help clarify the location of specific pain generators. Only the worst pain cases require major procedural intervention such as surgery, neuroablation of peripheral nerve or nerve plexus, neuromodulation and intra-spinal drug infusions. Nerve plexus blocks are most useful when sympathetic nerves convey pain. Neuromodulation is not destructive and may be preferable, initially,
to neuroablation procedures. Once opioids or antispasmodic doses have reached unusually high levels or adverse dose-dependent effects occur, intra-spinal and epidural infusions may prove useful.

**Neuromodulation** (electrostimulation) can be applied to peripheral nerves, the spinal cord epidural space, deep in the brain or on the surface of the brain cortex. Patient selection is of paramount importance to avoid failed expectations and unnecessary cost. Almost all neuromodulation should be preceded by second opinion evaluation and behavioral assessment to verify suitability for the intended procedure. Implanted Pulse Generator (IPG) battery life may be 1-5 years, depending on stimulation parameters. Pulse generator replacement is typically performed as an outpatient procedure requiring sedation, antibiotics and monitoring. Occasionally epidural, peripheral or intracranial leads may migrate and require surgical revision in order to optimize or reestablish stimulation.

**Surgery** for chronic pain is usually "end-stage" and may occasionally be as palliative. For tumors, debulking is transiently helpful. Neural and skeletal metastasis may present overwhelming challenges for surgical pain control. Somatic pain generators are best targeted for surgical intervention, whereas neuroablation and neuromodulation may be more specific for neuropathic pain generators.

Neuroablative procedures do not require frequent follow-up; the treatment either helps or it does not. Predictive diagnostic blocks help determine if ablation will be beneficial. Most physicians providing ablations live by the adage, "measure twice before you cut once." Radio frequency/heat lesioning produces longer lasting clinical response than cryoanalgesia/cold lesioning (van Kleef, 1996). Spinal cord lesioning may occur at spinothalamic or corticothalamic tracts or at dorsal root entry zones. Ganglionotomy may be performed at the pituitary hypophysis, thalamus, sphenopalatine ganglion, trigeminal/ gasserian ganglion, cervical and lumbar sympathetic ganglion chain, celiac plexus, superior hypogastric plexus or ganglion impar (Bullitt, 1986). Pain of discal and spinal nerve root may warrant lesioning at the grey ramus communicantes, dorsal root ganglion, and within the superior third of the vertebral disc itself. Various peripheral and skeletal (facet) nerves may be heat-lesioned or treated with pulsed radio frequency to reduce pain. Desiccant agents like phenol or alcohol may also be instilled onto spinal cord or joint and peripheral nerve sites to disrupt neural transmission. A troublesome complication of desiccant agents is partial disruption injury to the nerve resulting in new persistent neuralgia (causalgia).

**Implantable Pumps for Spinal infusions** may bring improved relief to cancer, spasticity, neuropathy and ischemia pain suffers (Smith, 2002). Occasionally, pumps are implanted for intra-arterial chemotherapy of an exceedingly well-defined tumor. Trial infusions via the epidural or intrathecal route typically precede implantation so as to determine the best drug or combinations of drugs to produce the most relief with the fewest adverse effects. Refill intervals vary
with drug concentration and infusion rate, but usually occur at one to three month intervals. Battery life for pumps is 3-7 years before surgical replacement is required. Occasionally, pump positions may need to be revised due to weight change or altered body contour.

**Abuse and Addiction: Recognition and Response**

Promoting pain relief while recognizing & preventing abuse requires delicate balance. Prescription medication abuse occurs when doses are modified whimsically, administered inappropriately, consumed excessively or diverted illegally by the patient. Although some patient-driven abuse may be inadvertent, deliberate misuse is more typical (Cole, 2001). Documentation of reasonable treatment goals should occur whenever initiating therapy with controlled medications. Before raising the question of abuse with a suspected patient, be prepared with facts affirming prior discussion of risks and alternatives, consent for treatment and clear statements of understanding regarding access to medications from your office and partners. These principles should become the foundation for a written Medication Access Agreement that stipulates the boundaries of acceptable prescriptive management for the patient, provider and participating pharmacy (Hare, 1990).

Prescription tampering and diversion of controlled substances are felonies. Notification of local authorities is required when proof exists. Discourage diversion by following some straightforward, everyday tactics. Tamper-resistant prescription pads are available at very reasonable cost. They should be used for all Scheduled Drug prescriptions. Watermarks and special chemical activators appear when prescriptions are altered or duplicated. Pressure-paper copy pads are more expensive but they provide a clean copy for comparison and verification by the pharmacy participating in the MAA. Use colored inks for printed pads and separate colored pen inks to hamper photocopying or digital scanning. Numbers and letters should be written out when specifying the number of pills to be dispensed. Specify the participating pharmacy elected on the MAA. Avoid pre-printing DEA Controlled Substance Registration Certificate Number on personalized prescription pads. Providers should carry prescription pads rather than leave them in exam rooms, clinics or open access areas. Prescription pad security in the office, clinic or hospital should be similar to the approach used to secure personal checkbooks or bank statements.

Addiction to opiates or co-analgesics is compulsive and, by definition, irrational behavior. Reasoning with someone displaying addiction behavior is unproductive. Whenever treatment goals are subverted by irresponsible or unrealistic behavior; therapy should be considered ineffective and withdrawn from the physician-patient relationship. Long term opioid therapy (LTOT) is generally contraindicated for the treatment of concurrent non-malignant pain and addictive disease. In the face of addiction, the clinical relationship need not necessarily be terminated, but rather limited to reasonable, responsible and
rational methodologies.

Remain firm and calmly adhere to previously discussed boundaries, as stipulated in the MAA. Abrupt discontinuance of medication access may precipitate withdrawal syndrome and panic symptoms, which may not be ethically defendable and legally justifiable. Intervene and wean. Before a witness, the patient should be apprised of your facts and conclusions. A tapering dose of medication should be provided to begin the detoxification process. Notify co-managing providers of your decision. Document details of the term and details of discontinued, ineffective therapy. Avoid accusatory or judgmental comments throughout the entire encounter or documentation. Remain accessible on an emergency basis for a sensible period of time (two to three weeks) or until institution of addiction therapy, whichever is shorter (Weaver, 1999). Evaluation by addiction specialists or a community-based drug recovery program should be offered.

Recently a buprenorphine/naloxone formulation has been introduced to manage craving in opioid addiction treatment as opposed to "Methadone Maintenance Programs." Authority to prescribe this formulation requires additional Drug Enforcement Administration (DEA) certification, obtainable by special training online or vial DEA-sponsored clinical seminar. Literature, to date, is encouraging (Askie, 2003).

Addiction is extremely resilient behavior. The addicted person may utilize many behaviors including: improvisation, persistence, prevarication, feigned helplessness, intimidation and avoidance of personal responsibility in their obsessive pursuit of their drug of choice. Suspicion of addiction should rise whenever clinical situations are unusually emotional, inflexible, hurried, vague, elaborate, inconsistent, exaggerated, pseudo-intellectual or inappropriately intimate. There are no social, ethical, moral, personal or financial boundaries addiction cannot compromise.

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