

# Controlled Substance Prescribing Handbook

University of South Alabama  
College of Medicine  
Department of Family Medicine



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# PREFACE

This handbook was initially planned as a simple list of procedures for our practice to follow for prescribing narcotic pain medicines. Aside from the need to teach our residents and students about this, it had become clear that, since the residency functions as a large group practice with a constant turnover of its members, we needed some general rules to guide the prescribing practices of multiple physicians covering for each other.

Following the Tina Turner Principle (“We never, ever do nothin’ nice and easy”), it was soon evident that there were larger shoes for this endeavor to fill. For one thing, there is a general shortage of pain management specialists in many communities. Yet many primary care providers are poorly trained in the treatment of chronic pain. They are told that pain is the fifth vital sign, while they must remain vigilant for drug seeking behavior, wary of the legal ramifications of being perceived as an overprescriber. Controlled substance prescribing rules are sometimes not particularly intuitive, and electronic prescribing, which holds great promise in reducing prescribing errors and prescription forgery, is still evolving, adding further confusion.

Along the way, it became apparent that it makes little sense to discuss narcotic prescribing without addressing other controlled substances, primarily sedative/hypnotics and stimulants used for attention deficit hyperactivity disorder. In many practices they constitute a larger volume of prescriptions than pain medicines, with analogous abuse potential, and probably an even greater physician-to-physician variability in prescribing practices.

Next the problem of a “pain contract” rose to the surface. In reality, what is needed is a “controlled substances contract,” yet many practices require a written agreement for some scheduled drugs, but not others. And what makes up a controlled substances contract? For some, it is a list of office policies to be followed for prescribing, while others treat it as more of an informed consent for the patient, in acceptance of such medications. It seems sensible for the contract to serve both purposes.

Thus the project became larger and more time-consuming, resulting in the handbook before you. The first three chapters discuss the major medical problems that are treated with controlled substances: pain, anxiety and insomnia, and attention deficit hyperactivity disorder. In recognition of the abundance of readily available electronic and Internet prescribing references, the focus has been on the principles that need to be considered when prescribing for these conditions, though a considerable amount of detail was given to specific narcotic pain medications. Each chapter also gives a work flow that can serve to govern the residency’s controlled prescribing practices. The final chapter provides copies of the forms discussed in the first three chapters, as well as some patient education material.

While there are certainly instances where professional judgment will supersede these policies, they should serve as a good working basis for the physician in training, as well as a baseline guide to follow when covering for other physicians in the practice. I trust any errors, questions, or differing opinions will be brought to the attention of the author.

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# TABLE OF CONTENTS

PREFACE .....	iii
CHAPTER 1: Pain Management Guidelines .....	1
CHAPTER 2: Sedative/Hypnotic Management Guidelines .....	39
CHAPTER 3: Attention Deficit Hyperactivity Disorder Stimulant Management Guidelines ....	51
CHAPTER 4: Forms, Tables, and Patient Education Materials .....	65
—Controlled Substances Agreement .....	67
—Controlled Substances Contract .....	69
—Risks and Side Effects of Narcotic Pain Medicines.....	71
—Risks and Side Effects of Sedative/Tranquilizer Medications.....	73
—Risks and Side Effects of Stimulants (Attention Deficit Medications) .....	75
—Pharmacy Selection.....	77
—Treatment Plan .....	79
—Pain and Symptom Assessment .....	81
—Beck’s Depression Inventory .....	85
—Opioid Risk Tool.....	91
—Equianalgesic Narcotic Conversion Table.....	101
—Adjunctive Pain Medication Summary Table.....	103
—Selected Oral Benzodiazepines and Non-Benzodiazepine Benzodiazepines in the U.S. ....	107
—Pharmacologic Agents for ADHD .....	109
—ADHD Diagnostic Tools.....	113
—DSM-IV Criteria for Attention Deficit Hyperactivity Disorder .....	115
—Sleep Hygiene Patient Handout .....	117
—ADHD Parental Advice Form.....	121



# CHAPTER 1

## PAIN MANAGEMENT GUIDELINES

### I. OVERVIEW

Detailed narcotic prescribing guidelines are outlined in this chapter, but the basic rules and workflow can be summarized as follows:

- A. Assess the etiology of the patient's pain.
- B. Assess the appropriateness of further diagnostic or therapeutic measures, or specialty referral.
- C. Determine whether or not long-term pain medications are indicated.
- D. If chronic pain medication is to be prescribed, discuss departmental policies with the patient, and have the patient complete a CONTROLLED SUBSTANCES AGREEMENT, including the appropriate RISKS AND SIDE EFFECTS FORM.
- E. Begin prescribing appropriate pain medications, guided by the following principles:
  1. Assess the patient's level of pain and the effectiveness of prescribed measures.
  2. Use the lowest dose of the mildest medicine necessary for pain management, but make sure pain *is* adequately managed.
  3. Unless pain is episodic and relatively infrequent, use both short-acting (breakthrough) and long-acting (maintenance) agents.
  4. Anticipate and monitor for side effects, and treat appropriately.
  5. Monitor for compliance and appropriate drug usage.
  6. Consider adjunctive pharmacologic and nonpharmacologic measures.

## II. ACUTE/SHORT-TERM PAIN MANAGEMENT

- A. In the event of an apparent acute or short-term need for pain medications, document in the visit note the indication, drug, dosage, and the anticipated timeframe of use.
- B. If the patient's usage starts to exceed the amount or duration of anticipated needs, evaluate further. Consider alternative diagnoses, adjunct pain management modalities, or specialty referral.
- C. If the result of above measures indicates a need for chronic pain management, proceed as discussed below.

## III. CHRONIC PAIN INITIAL PROCEDURES

- A. Established patient.
  - 1. If the chart contains a clearly documented cause for pain, with no further therapeutic workup indicated, and it is the opinion of the physician that narcotics are the safest, most effective choice for pain management:
    - a. Obtain urine drug screen to look for evidence of appropriate use, diversion, or illicit substance use.
    - b. Continue prescribing, proceeding as discussed below.
  - 2. If there are any questions regarding the diagnosis, medications used, or other treatment options, evaluate these.
    - a. While this evaluation takes place, the physician may continue prescribing the patient's current medications, or make modifications deemed appropriate, before having the patient complete a CONTROLLED SUBSTANCES AGREEMENT.
    - b. Explain to the patient that these steps are being taken as part of a practice-improvement plan with regard to pain management.
    - c. Document on the chart that prescribing is being continued without a CONTROLLED SUBSTANCES AGREEMENT for this interim period. A reasonable timeframe for this evaluation is 30 days, not to exceed 90 days.
    - d. Upon completion of this evaluation, one of the following determinations should be possible:
      - i) The patient has a clearly defined need for chronic pain management.
        - a) Document this.

- b) Schedule a pain management visit within the next two weeks.
  - c) Give the patient copies of the BECK DEPRESSION INVENTORY, the PAIN AND SYMPTOM ASSESSMENT form, and the OPIOID RISK TOOL, with instructions to complete them the morning of the pain management visit.
  - d) The physician may choose to give a short course of pain medication to last until the pain management visit, or to defer treatment until that visit takes place.
- ii) The patient has a problem that can be definitively addressed, obviating the need for chronic pain medications. Treat or refer for such therapeutic management; the physician may continue current pain prescribing while treatment takes place, clearly documenting these measures on the chart.
  - iii) The patient does not have an indication for chronic pain medications. Document on this and inform the patient. Discontinue chronic pain prescribing, considering a brief tapering period if the physician deems appropriate due to concern for withdrawal symptoms. Offer referral for treatment of drug habituation if deemed appropriate or if patient requests.

B. New patient.

For someone coming to our practice with a history of chronic narcotic use from previous healthcare providers, requesting that we take over this prescribing, follow these procedures:

1. Request records, diagnostic study reports, and any other available documentation supportive of the patient's diagnosis and need for chronic pain medications.
2. Based on clinical assessment at this point, the physician may choose to do one of two options:
  - a. Decline to prescribe controlled substances while awaiting further data.
  - b. Prescribe small amounts of pain medications while awaiting further data.
    - i) If this option is chosen, make clear to the patient that the practice is not agreeing to continue long-term pain medications at this point, and that pain meds will not be prescribed longer than one month without receiving prior records or the initiation of further evaluation.
    - ii) Obtain urine drug screen to look for evidence of appropriate use, diversion, or illicit substance use.

3. If the obtained records indicate that patient has a clearly defined need for chronic pain management, and there is no need for further evaluation or therapeutic measures:
  - a. Document this.
  - b. Schedule a pain management visit within the next two weeks.
  - c. Give the patient copies of the BECK DEPRESSION INVENTORY, the PAIN AND SYMPTOM ASSESSMENT form, and the OPIOID RISK TOOL, with instructions to complete them the morning of the pain management visit.
  - d. The physician may choose to give a short course of pain medication to last until the pain management visit, or to defer treatment until that visit takes place.
4. If adequate records are not available; there are delays of over a month obtaining records; the patient wishes to have further evaluation without waiting on records; or records indicate the need for further diagnostic or therapeutic measures, recommend further evaluation of the problem and/or referral.
  - a. If the patient declines further evaluation, inform the patient that we will be unable to prescribe pain medications.
  - b. If the patient agrees, the physician may prescribe limited pain medications, or decline to do so, until workup is completed, as described in item III.B.2 above.
  - c. If the patient agrees to further evaluation, upon completion of this evaluation, decide upon the appropriate action, as discussed in item III.A.2.d above.

#### IV. CHRONIC PAIN MANAGEMENT POLICIES

##### A. Pain management visits.

1. For any new pain management patient, or for an established patient with a substantial change in pain, an appointment should be made solely to address pain management.
2. When pain is being adequately managed, it is not necessary to have monthly visits just for pain medication refills. These may be handled at visits for other medical problems, or as planned between-visit refills. However, pain management patients will be physically seen in the office at least every three months to continue prescribing.

##### B. CONTROLLED SUBSTANCES AGREEMENT.

1. The USAFM CONTROLLED SUBSTANCES AGREEMENT consists of the following components:

- a. **CONTROLLED SUBSTANCE CONTRACT.** This outlines our general controlled substance prescribing rules, and gives the patient the opportunity to acknowledge them.
  - b. **RISKS AND SIDE EFFECTS FORM.** This outlines possible adverse effects of the medications to be used, and gives the patient the opportunity to acknowledge them. Note that there are forms for narcotics, sedative/hypnotics, and stimulants, and the physician will need to choose the appropriate page(s).
  - c. **PHARMACY SELECTION FORM.** This specifies the patient's choice of pharmacy, and allows for future changes.
  - d. **TREATMENT PLAN.** This specifies the diagnosis determined to be the etiology of the patient's pain, and medications/therapies used to treat the patient's symptoms. In addition to controlled substances, adjunctive medications and measures used to address side effects should be included.
2. The **CONTROLLED SUBSTANCES AGREEMENT** may be given to the patient to review prior to the first pain management visit, or the patient may receive this at the first pain management visit. The patient will be given an opportunity to review the Agreement, and discuss any questions with the physician, social worker, nurse, or other designated practice staff.
  3. The patient and physician will sign and date the appropriate locations of the **CONTROLLED SUBSTANCES AGREEMENT**.
  4. The patient will receive a copy of the **CONTROLLED SUBSTANCES AGREEMENT**, and the original will remain on the patient's chart.
  5. Any future changes to the **PHARMACY SELECTION** or **TREATMENT PLAN** forms will be initialed and dated by the patient and physician, and the patient will receive an updated copy of the effected pages.
- C. Drug screens.
1. Urine drug screens will be performed at the first pain management visit, preferably before narcotics are first prescribed.
  2. Urine drug screens should be performed at least twice yearly.
  3. Urine drug screens should be performed at any time the physician has uncertainty as to patient compliance, medication misuse, or illicit drug use.
  4. The purpose of urine drug screens is two-fold:

- a. To confirm the patient is using medications as prescribed, rather than diverting them.
  - b. To confirm the absence of unprescribed or illicit drugs.
5. Note the following information regarding the standard University of South Alabama urine drug screen:
- a. The following drug classes are detected: amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, and opiates.
  - b. The following opiates are detected: codeine, heroin, hydrocodone, hydromorphone, meperidine, morphine, oxycodone, and oxymorphone.
  - c. The following agents are *not* detected as opiates: fentanyl, methadone, propoxyphene, and tramadol. If necessary, there are specific assays available to detect these drugs. The most commonly used is the assay for methadone, which is done on a urine specimen.
  - d. While amphetamines are detected, methylphenidate is not.
  - e. Outside reference labs, such as LabCorp, have panels that include methadone and fentanyl.
- D. Depression, anxiety, and other mental disorders.
- 1. Depression is often seen concomitantly with chronic pain, and it complicates pain management. Patients should be evaluated on an ongoing basis for depression.
  - 2. Patients should complete the BECK DEPRESSION INVENTORY either prior to, or the day of, the first pain management visit. This tool may also be used at later visits as dictated by clinical progress.
  - 3. Patients should be offered relatively aggressive medicinal treatment for depression, especially in light of the fact that many antidepressants possess potent analgesic properties. Antidepressant medications that are often used in pain management are discussed below in the section on adjunctive measures.
  - 4. Anxiety is also common in chronic pain patients, but adequate pain management often alleviates much of a patient's anxiety.
  - 5. If anxiety requires medicinal treatment, consider first using antidepressant medications, such as SSRIs/SNRIs, which also possess anxiolytic qualities.
  - 6. Sedatives/hypnotics, such as benzodiazepines, if used at all, are best used on a short-term basis, given the opportunities for habituation and side effects that are additive to

those of narcotics. If the physician feels the benefits outweigh the risks, such agents may be prescribed; see the Sedative-Hypnotic Guidelines chapter for further information.

7. In addition to medical treatment, patients should also be offered referral for counseling services, either within the Family Medicine Center Clinic, or, if necessary, with outside consultants. In particularly difficult cases, consider psychiatric consultation.
8. Other major psychiatric diagnoses, such as schizophrenia and bipolar disorder, can make pain management very difficult. Many of these cases will be beyond the scope of a primary care office, and should prompt referral to appropriate psychiatric and pain management consultants.

#### E. Chronic pain management principles.

1. A good overview of the principles of chronic pain management is available in the PAIN MANAGEMENT READING MODULE, available on the USAFM computer system.
2. A history of previous substance abuse does not preclude pain medication prescribing for appropriate uses. However, there is much greater potential for abuse, requiring very close monitoring, which may well be beyond the scope of most primary care practices.
3. If not completed by the time of the initial pain management visit, the PAIN AND SYMPTOM ASSESSMENT form should be done. It would be advisable to have the patient complete another copy of this form at any time there is a problem with worsening pain or side effects, and at least quarterly.
4. Pain may generally be categorized as follows:
  - a. Mild: Pain score 1-3.
  - b. Moderate: Pain score 4-7.
  - c. Severe: Pain score 8-10.
5. The purpose of chronic pain management is to safely improve function and quality of life through the treatment of pain and other associated symptoms. The complete relief of pain is unlikely to be an achievable goal, and the patient should be made aware this is not a realistic expectation. Negotiate with the patient a target level of relief; often this would be an average pain level of under 4.
6. A general principle to follow, in keeping with the World Health Organization Three-Step Ladder, is to treat mild pain with non-narcotic medications, moderate pain with milder narcotics, and severe pain with more potent narcotics.

7. Short-acting narcotics are immediate-release (IR) preparations; these are also referred to as PRN, rescue, or breakthrough analgesics. Long-acting narcotics are sustained-release (SR) preparations, which may only be required one to two times a day. These are also referred to as extended-release (ER), baseline, or maintenance analgesics.
8. For patients with intermittent pain only, that is, patients who have periods of time with little or no pain, punctuated with occasional episodes of moderate to severe pain, it is proper to prescribe short-acting analgesics for as-needed use. One may wish to consider giving some non-narcotic options for milder pain, and a mild to moderate narcotic for more pronounced pain.
9. If the patient is needing stronger medications more often (perhaps three or more days per week), consider the possibility of a new or overlapping disease process, or progression of the known diagnoses. Investigate and treat accordingly.
10. If it becomes evident that patient is needing stronger medications more frequently, and evaluation fails to reveal a correctable cause, it is time to institute maintenance pain medications.

F. Narcotic usage guidelines.

1. Side effects.

While they will be addressed during the process of completing the CONTROLLED SUBSTANCES AGREEMENT, side effects should be discussed any time medication changes are made, or a new therapy is initiated. The following side effects are particularly common:

a. Sedation and/or lightheadedness.

- i) Tolerance to these side effects generally develops over the first three days in most cases, and by two weeks at worst.
- ii) After the patient has developed tolerance to this side effect, it should be safe for the patient to drive again.

b. Constipation.

- i) Constipation secondary to opioid administration is almost universal. It is the result of opioid effects on the central nervous system, spinal cord, and myenteric plexus of the gut that lead to reduced gut motor activity and increased stool transit time. The colon has more time to desiccate its contents, leaving large, hard stools. Other factors, such as dehydration, poor food intake, and other medications, may further aggravate the problem.

- ii) Tolerance to constipation develops very slowly, and often does not develop at all. It requires anticipatory and ongoing management.
  - iii) Dietary interventions, such as increasing fluid and fiber intake are advisable, but are often insufficient.
  - iv) Bulk-forming agents, such as psyllium (Metamucil) and methylcellulose (Citrucel), require substantial fluid intake, and are not recommended for those with advanced disease and poor mobility.
  - v) Stimulant laxatives, such as senna (Ex-Lax, Senokot), bisacodyl (Dulcolax), or glycerin, may be useful, though tolerance to their effects may develop.
  - vi) Stool softeners, such as docusate sodium (Colace), are not usually effective by themselves, but may be useful in combination with stimulants.
  - vii) A prokinetic agent, such as metoclopramide (Reglan) may also be useful, though it has a more troublesome side effect profile than the other alternatives for constipation.
  - viii) Osmotic laxatives, in particular polyethylene glycol (MiraLax, GlycoLax), have become a common treatment of choice for narcotic-induced constipation. This may be administered as 17 mg (1 capful/packet) in 8 ounces of fluid twice daily, titrating up or down, aiming for at least one soft bowel movement per day. Other osmotic agents include milk of magnesia, lactulose, and sorbitol.
  - ix) If a patient presents with an already-established pattern of constipation, rule out obstruction, and consider the need for manual disimpaction.
- c. Itching.
- i) Without a rash, itching is *not* indicative of an allergic reaction.
  - ii) It will likely resolve over several days. If it does not, it is possible that another agent will cause less itching.
- d. Respiratory depression. While this is a common concern for prescribers, it is very uncommon at recommended analgesic doses.

## 2. Route of administration.

In general, unless it is unavailable, the preferable route of administration is enteral (oral or feeding tube). After this, use the following routes, listed in order of preference: transcutaneous; subcutaneous; intravenous. The intramuscular route of administration is virtually never required.

3. Narcotic dosing considerations.
  - a. Equianalgesic tables are widely available, comparing the relative potency of various narcotic agents, to allow for conversion between them. One is included elsewhere in this chapter.
  - b. When starting narcotics on a opiate-naïve patient, begin with the lower end of the dosage range and titrate up.
  - c. When converting a patient from PRN narcotics to maintenance therapy, add up the total amount of medication the patient is currently receiving, convert to an equianalgesic dose of a maintenance medication, and give routinely around the clock.
  - d. When a patient is given maintenance narcotics, a short-acting agent should also be made available for breakthrough pain. A typical breakthrough dose would be the equivalent of 5-15% of the total daily maintenance dosage. This would be given PRN as often as dictated by the pharmacokinetics of the agent used and the individual response. This might be as frequently as every 1-2 hours orally or 30-60 minutes SC/IV. For continuous infusion, a breakthrough dose can be either the hourly rate given PRN over 15 minutes, or 10% of the total daily dose given over 30-60 minutes. Note that some breakthrough medications are combinations with acetaminophen or NSAIDs, and that these components may actually be the limiting prescribing factor.
  - e. Adjust the maintenance dosage upward every 1-3 days in an amount roughly equivalent to the total daily amount of breakthrough usage. This should result in a decrease in the amount of breakthrough medication needed.
  - f. When converting from one opioid to another, some experts recommend starting with only 50-75% of the dose calculated using an equianalgesic table. This allows for a margin of safety, given the variability of individual responses to various drugs, but it may also mean the initially chosen conversion dose provides inadequate pain relief, so the patient should be observed for the need for early titration. This dose conversion reduction is particularly important when dealing with high doses of high-potency agents, such as hydromorphone (Dilaudid), methadone, or fentanyl (Duragesic).
  - g. Elderly patients, or those with severe renal or liver disease, should be started on half the narcotic dose otherwise calculated, unless recommended otherwise in the prescribing information of the drug in use.
  - h. When a patient on chronic maintenance narcotics has surgery, or is temporarily unable to take medications by mouth for other reasons, it may be necessary to change to appropriate doses of immediate-release narcotics for a short period of

time. Resume maintenance doses when the patient's clinical condition has stabilized.

4. Special diagnosis considerations.

a. Back pain.

Data is limited that chronic narcotic usage improves quality of life in patients with back pain over three months' duration. It is advisable to limit prescribing for acute events to a brief period of time, and to maximize non-narcotic drug options and other pain-management modalities. In the event of prolonged back pain, one should completely evaluate the patient for correctable pathology, utilizing appropriate specialty referral, particularly in younger patients. If after such evaluation it is the consensus that there are no other appropriate therapeutic options, chronic narcotics may then be considered.

b. Headache.

In general, narcotics are not advisable choices for headache management, given the side effect profile, and the propensity for inducing rebound worsening of headaches. They may be appropriate for limited, acute treatment of intractable migraines.

c. Sickle cell disease.

Sickle cell disease is often a condition of recurrent, intermittent pain, rather than chronic, daily pain. When possible, it should be managed with immediate-release pain medications on an as-needed basis. However, when pain is becoming more frequent, or when the patient comes to the practice already established on maintenance narcotics, sustained-release prescribing is appropriate. It should also be noted that ketorolac (Toradol) is a potent NSAID that is often especially effective for relieving bone pain in sickle cell patients. It can be given by injection or orally, causes no respiratory depression, and may reduce the amount of opioids required by the patient.

d. Previously-established chronic narcotic usage.

From time to time, patients may come to our practice already established on chronic narcotics through other providers, for conditions for which we would not typically prescribe such medications. Given the rotating nature of the physicians in USAFM, similar patients may also be discovered already within our practice, whose medication prescribing became established prior to the institution of our current pain management policies. Recommendations regarding prescribing for and evaluating these patients appear elsewhere in this document. However, it is recognized that, based upon the clinical judgment of the treating physician, the best course of action may be to continue narcotic prescribing for some patients that we might not have initiated on narcotics if we were the initial treating physicians.

## V. NARCOTIC SELECTION

### A. Immediate-release (breakthrough) narcotics.

#### 1. Tramadol.

##### a. Commonly available forms:

- i) 50 mg tablet (Ultram, generic).
- ii) Acetaminophen/tramadol 325/37.5 mg tablet (Ultracet).

##### b. Dosing: 50-100 mg PO Q 4-6 hours, up to 400 mg/day.

##### c. Notes:

- i) Lowers seizure threshold.
- ii) Not federally classified as a controlled substance; some states classify in Schedule IV, as psychological and physical dependence have occurred.
- iii) If tramadol is sufficient, it is a good initial choice; however, many chronic pain patients are likely to need stronger analgesics.

#### 2. Hydrocodone.

##### a. Commonly available forms:

- i) Acetaminophen/hydrocodone 500/2.5, 500/5, 500/7.5, 500/10 mg tablets; 500/7.5 per 15 ml liquid (Lortab, Vicodin, generics; other combination variants exist).
- ii) Ibuprofen/hydrocodone 200/7.5 mg tablet (Vicoprofen, generic).

##### b. Dosing:

- i) Start at 5 mg PO Q 4 hours, titrating as needed.
- ii) In practicality, dosing is limited by the acetaminophen or ibuprofen component.

##### c. Notes:

- i) A good first choice for breakthrough pain, if the acetaminophen or ibuprofen components are not limiting. Beware of other sources of acetaminophen or NSAIDs patient may be taking.
- ii) Beware of NSAID contraindications for the ibuprofen product.

3. Oxycodone immediate-release.

a. Commonly available forms:

- i) 5, 10, 15, 20, 30 mg IR tablets; 20 mg/ml IR liquid. (Roxicodone, generic). 5, 7.5 mg tamper-resistant tablets (Oxecta)
- ii) Acetaminophen/oxycodone 325/2.5, 325/5, 325/7.5, 325/10, 500/7.5, 650/10 mg tablets (Percocet, Tylox, others, generics; other combination ratios exist).
- iii) Aspirin/oxycodone 325/4.8355 mg tablets (Percodan, generics).
- ii) Ibuprofen/oxycodone 400/5 mg tablets (Combunox).

b. Dosing: 5-30 mg PO Q 4 hr PRN.

c. Notes:

- i) A good choice for breakthrough pain, particularly when there is a need to avoid acetaminophen.
- ii) Acetaminophen component is the limiting factor for the combination product. Beware of other sources of acetaminophen patient may be taking.
- iii) Be careful not to confuse with the extended-release formulation when prescribing; make sure the patient understands the distinction if both IR & ER versions are prescribed.

4. Morphine immediate-release.

a. Commonly available forms:

- i) 10, 30 mg IR tabs; 10, 15, 30 mg soluble IR tabs; 2, 4, 20 mg/ml solution.
- ii) 5, 10, 20, 30 mg suppositories.
- iii) Injectable IV/SC/IM.

b. Dosing:

- i) PO/SL: 10-30 mg Q 3-4 hr PRN; may use soluble tabs or solution buccally.
- ii) Rectal: 10-20 mg Q 4 hr PRN.
- iii) SC/IM/IV: 2.5-10 mg Q 2-6 hr PRN.

c. Notes:

- i) Be careful not to confuse with the extended-release formulation when prescribing; make sure the patient understands the distinction if both IR & ER versions are prescribed.
- ii) Use caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.

5. Hydromorphone (Dilaudid, generic).

a. Commonly available forms:

- i) 2, 4, 8 mg tabs; 1 mg/ml liquid (no generic liquid).
- ii) 3 mg suppository.
- iii) Injectable IV/SC/IM.

b. Dosing:

- i) PO: 2-8 mg PO Q 3-4 hr PRN.
- ii) Rectal: 3 mg Q 6-8 hr PRN.
- iii) SC/IM/IV: 1-4 mg Q 4-6 hr PRN.

c. Notes:

- i) Sometimes effective when analgesia from other narcotics has waned.
- ii) Acceptable with renal disease.
- iii) High equianalgesic potency.

6. Fentanyl immediate-release.

a. Commonly available forms:

- i) 200, 400, 600, 800, 1200, 1600 mcg lozenge (generic); wide variety of branded buccal/sublingual tablets, lozenges, strips, sprays (Abstral, Actiq, Fentora, Onsolis, Subsys); nasal spray (Lazanda)
- ii) Injectable IV/IM.

b. Dosing:

- i) Oral or nasal transmucosal: Start with lowest dose, titrating up as needed, following instructions of the specific agent.
- ii) IV/IM: 50-100 mcg Q 1-2 hr.

c. Notes:

- i) All transmucosal forms are very expensive, including generics.
- ii) The transmucosal forms are not directly interchangeable.
- iii) Do not cut/chew/crush/swallow.
- iv) High equianalgesic potency. Do not depend on equianalgesic conversions to oral fentanyl, as necessary doses correspond poorly with total daily dose of other narcotics.
- v) Do not use in opiate-naïve patients.

7. Oxymorphone immediate-release (Opana, generic).

a. Commonly available forms:

- i) 5, 10 mg IR tablets.
- ii) Injectable IV/SC/IM.

b. Dosing:

- i) PO: 10-20 mg PO Q 4-6 hr PRN, 1 hr before or 2 hours after meals.
- ii) SC/IM: 1-1.5 mg SC/IM Q 4-6 hours PRN.
- iii) IV: 0.5 mg IV Q 4-6 hours PRN.

c. Notes:

- i) Also known as 14-hydroxydihydromorphinone.
- ii) Expensive, even as a generic (though Alabama Medicaid covers as of this writing).
- iii) High equianalgesic potency.

## 8. Methadone.

### a. Commonly available forms:

- i) 5, 10, 40 mg tablets; 1, 2, 10 mg/ml liquid. (40 mg tablet is only available for drug treatment program usage.)
- ii) SC; IM; IV.

### b. Dosing:

- i) PO: 2.5-10 mg Q 8-12 hours PRN in opiate-naïve patients; for conversion, use a very conservative interpretation of equianalgesic tables. Titrate very slowly; see notes below.
- ii) SC/IM/IV: 2.5-5 mg Q 8-12 hours PRN in opiate-naïve patients; for conversion, use a very conservative interpretation of equianalgesic tables. Titrate very slowly; see notes below.

### c. Notes:

- i) Methadone has a very long, variable half-life; it is best used as a maintenance medication. While it may have utility as a breakthrough medication, it should probably only be used when no other alternative is effective. Many would reserve its use to experienced pain management specialists, especially as a breakthrough medication.
- ii) Titrate very slowly to effect; it may take 3-5 days to achieve full analgesic effect. Small dose changes may make big differences in blood levels. It is wise to make dosage changes no more often than every 4-7 days.
- iii) Begin with Q 12 hr dosing. If, after several days of observation, the patient appears to be getting initially adequate pain relief, yet it does not last 12 hours, increase frequency to Q 8 hours. There is considerable individual variability, and some patients have required dosing as often as Q 6 hours, or even Q 4 hours.
- iv) Peak sedation and respiratory depressant effects may occur later than peak pain effect; always write “hold for sedation.”
- v) Methadone displays incomplete and variable cross-tolerance with other opiates; deaths have occurred from iatrogenic overdose. When converting from other opiates, it is prudent to start with 10-25% of the published equianalgesic dose and titrate to achieve pain control.
- vi) Do not use methadone as a breakthrough medicine if it is being used as the maintenance medicine.

vii) QT prolongation and torsades de pointes have occurred. Do EKG pre-treatment, after 30 days, and yearly thereafter.

viii) Relatively safe with renal disease.

9. Levorphanol (Levo-Dromoran, generic).

a. Commonly available forms:

i) 2 mg tablet.

ii) SC; IM; IV in some countries.

b. Dosing:

i) PO: 2 mg Q 6-8 hours PRN. Titrate slowly; see notes below.

ii) SC/IM/IV: 2 mg Q 6-8 hours PRN. Titrate slowly; see notes below.

c. Notes:

i) Very long half-life of 16-18 hrs, despite the need for dosing Q 6-8 hrs. Risk of accumulation with repeat dosing. Titrate no more often than Q 72 hrs.

ii) Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables.

iii) Q 6-8 hr dosing makes it most commonly used as a breakthrough med, though may be useful as maintenance drug in some patients.

10. Tapentadol (Nucynta).

a. Commonly available forms:

i) 50, 75, 100 mg tabs.

b. Dosing: 50-100 mg PO Q 4-6 hours PRN.

c. Notes:

i) Weak mu agonist/norepinephrine reuptake inhibitor.

ii) Perhaps fewer GI effects, same CNS effects, compared to other opioids.

iii) Avoid within 14 days of MAO inhibitor.

## 11. Codeine.

### a. Commonly available forms:

- i) Plain codeine tablet and liquid formulations exist, but are not commonly stocked in pharmacies.
- ii) Acetaminophen/codeine combination is most commonly found form; 300/15, 300/30, 300/60 mg tablets; 120/12 mg per 5 ml liquid with 7% alcohol are usually stocked in pharmacies, and are available generically.
- iii) Codeine/guaifenesin cough syrups are generically available; 10/300; 10/100 mg/5 ml liquids.

### b. Dosing: 15-60 mg PO Q 4-6 hours PRN; acetaminophen is often the limiting factor.

### c. Notes:

- i) Relatively low potency.
- ii) Relatively high incidence of itching and nausea.
- iii) Must be metabolized to morphine to become active; up to 10% of Caucasians lack the cytochrome P450 necessary to do this.
- iv) In contrast, a small number of patients are ultra-metabolizers, and deaths have occurred in children, even at usual doses; it is now contraindicated following tonsillectomy for this reason.
- v) Probably only useful for mild-moderate pain early in the course of pain management.

## B. Extended-release (maintenance) narcotics.

### 1. Oxycodone extended-release.

- a. Commonly available forms: 10, 15, 20, 30, 40, 60, 80 ER tablets (OxyContin; other brand names and generics have existed in ER form in past, but are no longer available as of this writing.)
- b. Dosing: Begin 10 mg PO Q 12 hours, or individualize dose from equianalgesic conversion Q 12 hours.
- c. Notes: A commonly used, first-choice maintenance medicine.

2. Morphine extended-release.

a. Commonly available forms:

- i) 15, 20, 30, 50, 60, 80, 100, 200 mg ER tablets (MS Contin—not all tablet sizes; generic).
- ii) 30, 45, 60, 75, 90, 120 mg modified-release, once-daily capsules/sprinkle (Avinza).
- iii) 10, 20, 30, 40, 50, 60, 70, 80, 100, 130, 150, 200 mg modified-release, once-daily capsules/sprinkle (Kadian).

b. Dosing:

- i) BID PO: Begin 15-30 mg PO Q 12 hours, or individualize dose from equianalgesic conversion Q 12 hours.
- ii) QD PO (Avinza): 30 mg PO Q 24 hours, or individualize dose from equianalgesic conversion. Increase in 30 mg increments no more often than Q 4 days; maximum: 1600 mg/day. Capsules may be swallowed whole or contents sprinkled on applesauce.
- iii) QD to BID PO (Kadian): Begin 15-30 mg PO Q 12 hours, or individualize dose from equianalgesic conversion Q 12 hours. Consider trying to extend to Q 24 hr dosing.

c. Notes:

- i) Be careful not to confuse with the immediate-release formulation when prescribing; make sure the patient understands the distinction if both IR & ER versions are prescribed.
- ii) Sprinkle capsules may be useful in patients with swallowing troubles, but they are branded, and thus are more expensive.
- iii) The QD version is branded, more expensive.
- iv) Caution in severe renal impairment; accumulation of metabolites can cause agitation, delirium.

3. Fentanyl transdermal.

- a. Commonly available forms: 12.5, 25, 50, 75, 100 mcg/hour patches (Duragesic, generic); note that the 12.5 mcg patch is usually dispensed as “12 mcg.”

b. Dosing: Individualize dosage from equianalgesic conversion table; given the high potency, it is advisable to begin around 30-50% of the listed equianalgesic dosage. Patch is replaced Q 72 hours. Some patients may need Q 48 hour dosing or >100 mcg/hour (requiring more than one patch at a time). Titrate dosage every 3-6 days.

c. Notes:

- i) Do not use in opiate-naïve patients.
- ii) Analgesia reaches peak 12 hours after application, and may persist 12-24 hours after removal.
- iii) High equianalgesic potency.

#### 4. Methadone.

a. Commonly available forms:

- i) 5, 10, 40 mg tablets; 1, 2, 10 mg/ml liquid. (40 mg tablet is only available for drug treatment program usage)
- ii) SC; IM; IV.

b. Dosing:

- i) PO: 2.5-10 mg Q 8-12 hours PRN in opiate-naïve patients; for conversion, use a very conservative interpretation of equianalgesic tables. Titrate very slowly; see notes below.
- ii) SC/IM/IV: 2.5-5 mg Q 8-12 hours PRN in opiate-naïve patients; for conversion, use a very conservative interpretation of equianalgesic tables. Titrate very slowly; see notes below.

c. Notes:

- i) Methadone has a very long, variable half-life; many would reserve its use to experienced pain management specialists.
- ii) Titrate very slowly to effect; it may take 3-5 days to achieve full analgesic effect. Small dose changes may make big differences in blood levels. It is wise to make dosage changes no more often than every 4-7 days.
- iii) Begin with Q 12 hr dosing. If, after several days of observation, the patient appears to be getting initially adequate pain relief, yet it does not last 12 hours, increase frequency to Q 8 hours. There may be some individuals who will still not have pain relief for 8 hours; this situation begins to overlap with

breakthrough usage of methadone, discussed above; if this is occurring, it is advisable to try other maintenance alternatives.

- iv) Peak sedation and respiratory depressant effects may occur later than peak pain effect; always write “hold for sedation.”
- v) Methadone displays incomplete and variable cross-tolerance with other opiates; deaths have occurred from iatrogenic overdose. When converting from other opiates, it is prudent to start with 10-25% of the published equianalgesic dose and titrate to achieve pain control.
- vi) Do not use methadone for both maintenance and breakthrough purposes.
- vii) QT prolongation and torsades de pointes have occurred. Do EKG pre-treatment, after 30 days, and yearly thereafter.
- viii) Relatively safe with renal disease.

5. Oxycodone extended-release (Opana ER, generic).

- a. Commonly available forms: 5, 7.5, 10, 15, 20, 30, 40 mg ER tablets.
- b. Dosing: Start 5 mg PO Q 12 hours in opioid-naïve patients, or individualize dose from equianalgesic conversion. Give 1 hour before or 2 hours after meals.
- c. Notes:
  - i) Also known as 14-hydroxydihydromorphinone.
  - ii) Moderately expensive, even as generic.
  - iii) High equianalgesic potency.

6. Levorphanol.

- a. Commonly available forms:
  - i) 2 mg tablet.
  - ii) SC; IM; IV in some countries.
- b. Dosing:
  - i) PO: 2 mg Q 6-8 hours PRN. Titrate slowly; see notes below.
  - ii) SC/IM/IV: 2 mg Q 6-8 hours PRN. Titrate slowly; see notes below.

c. Notes:

- i) Very long half-life of 16-18 hrs, despite the need for dosing Q 6-8 hrs. Risk of accumulation with repeat dosing. Titrate no more often than Q 72 hrs.
- ii) Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables.
- iii) Q 6-8 hr dosing makes it most commonly used as a breakthrough med, though may be useful as maintenance drug in some patients.

7. Hydromorphone extended-release (Exalgo).

a. Commonly available forms: 8, 12, 16, 32 mg ER tabs.

b. Dosing: 8-64 mg PO Q 24 hrs, based on daily equianalgesic conversion.

c. Notes:

- i) Not for use in narcotic-naïve patients.
- ii) Decrease dose 50% in moderate renal impairment; 75% in severe renal impairment.
- iii) Very expensive.

8. Morphine extended-release/naltrexone combination (Embeda).

a. Commonly available forms: 20/0.8, 30/1.2, 50/2, 60/2.4, 80/3.2, 100/4 mg caps.

b. Dosing: Based on daily equianalgesic conversion. Try Q 24 hrs; may have to give Q 12 hrs.

c. Notes:

- i) When swallowed, naltrexone is not released; if chewed/crushed/dissolved, naltrexone is released, blocking or blunting euphoria from morphine.
- ii) May be sprinkled on applesauce.
- iii) Very expensive.

9. Tapentadol extended-release (Nucynta ER).

a. Commonly available forms:

- i) 50, 100, 150, 200, 250 mg ER tabs.
- b. Dosing: Start at 50 mg PO Q 12 hrs; may increase by 50 mg every 3 days, up to 500 mg/day.
- c. Notes:
  - i) Weak mu agonist/norepinephrine reuptake inhibitor.
  - ii) Perhaps fewer GI effects, same CNS effects, compared to other opioids.
  - iii) Avoid within 14 days of MAO inhibitor.
  - iv) Do not crush/chew/dissolve.
  - v) Expensive.

10. Tramadol extended-release.

- a. Commonly available forms: 100, 200, 300 ER tablets (Ultram ER, generic).
- b. Dosing: Start at 100 mg PO QD, or equivalent amount of immediate-release tramadol already in use. Titrate 100 mg/day every 5 days; maximum: 300 mg/day.
- c. Notes:
  - i) Low potency, so probably not a practical maintenance choice in most chronic pain settings.
  - ii) Expensive, even as generic.
  - iii) Not federally classified as a controlled substance; some states classify in Schedule IV, as psychological and physical dependence have occurred.

C. Narcotic/analgesic summary table.

<b>Drug</b>	<b>Common Doses</b>	<b>Notes</b>
<i>Immediate-Release</i>	Start low in opiate-naïve patients.	
Codeine	15-60 mg PO Q 4-6 hrs PRN.	Acetaminophen is often the limiting dosing factor. Low potency. Relatively high incidence of itching and nausea. Up to 10% of Caucasians lack the enzyme to activate.
Fentanyl IR (ABSTRAL, ACTIQ, FENTORA, LAZANDA, ONSOLIS, SUBSYS, GENERIC)	Oral or nasal transmucosal: Start with lowest dose, titrating up as needed. 50-100 mcg IV/IM Q 1-2 hrs PRN.	Multiple transmucosal forms (SL/buccal strip, tab, lozenge, oral spray, nasal spray). Even generics are expensive. Various formulations are not directly interchangeable. Do not cut/chew/crush/swallow. High equianalgesic

		potency; do not use in opiate-naïve patients.
Hydrocodone (LORTAB, VICODIN)	5-10 mg PO Q 4 hrs PRN.	A good first choice for breakthrough pain, if the acetaminophen or ibuprofen components are not limiting.
Hydromorphone (DILAUDID, GENERIC)	2-8 mg PO Q 3-4 hrs PRN. 3 mg rectally Q 6-8 hrs PRN. 1-4 mg SC/IV/IM Q 4-6 hrs PRN.	Sometimes effective when analgesia from other narcotics has waned. Acceptable with renal disease, but reduce dose 50-75% in moderate-severe CRF. High equianalgesic potency.
Levorphanol (LEVO-DROMORAN, GENERIC)	2-4 mg PO Q 6-8 hrs PRN. Parenteral form available in some countries.	Very long half-life of 16-18 hrs, despite the need for dosing Q 6-8 hrs. Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables. Risk of accumulation; wait 72 hrs between dosage increases.
Methadone	2.5-10 mg PO Q 8-12 hrs PRN. 2.5-5 mg SC/IV Q 8-12 hrs PRN.	Very long, variable half-life; better used as maintenance drug rather than a breakthrough med. See discussion under ER meds below.
Morphine IR (GENERIC)	10-30 mg PO/SL Q 3-4 hrs PRN. 10-20 mg Q 4 hr rectally PRN. 2.5-10 mg SC/IV Q 2-6 hrs PRN.	Be careful not to confuse with the extended-release formulation when prescribing. Caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.
Oxycodone IR (ROXICODONE, GENERIC) Oxycodone IR tamper-resistant (Oxecta)	5-30 mg PO Q 4 hrs PRN.	A good choice for breakthrough pain, particularly when there is a need to avoid acetaminophen. Be careful not to confuse with the extended-release formulation when prescribing.
Oxycodone IR/acetaminophen or NSAID or ASA combinations (TYLOX, PERCOCET, others, GENERIC)	5-30 mg hydrocodone PO Q 4 hrs PRN.	Acetaminophen/NSAID often becomes the dose-limiting factor. Be careful not to confuse with extended-release formulations when prescribing.
Oxymorphone IR (OPANA, GENERIC)	10-20 mg PO Q 4-6 hrs PRN. 1-1.5 mg SC/IM Q 4-6 hrs PRN. 0.5 mg IV Q 4-6 hrs PRN.	Expensive, even as generic—though may be Alabama Medicaid-covered. Give PO doses 1 hr before or 2 hours after meals. High equianalgesic potency.
Tapentadol (NUCYNTA)	50-100 mg PO Q 4-6 hrs PRN.	Weak mu agonist/norepinephrine reuptake inhibitor. Weaker than morphine, perhaps fewer GI effects, same CNS effects.
Tramadol (ULTRAM)	50-100 mg PO QID PRN.	Central opioid agonist/SNRI. A good initial choice for mild pain. Lowers seizure threshold.
<i>Extended-Release</i>	Base initial dosing on equianalgesic conversion table.	
Fentanyl Transdermal (DURAGESIC, GENERIC)	Individualize dosage, based on equianalgesic conversion table. Replace patch Q 72 hrs.	Titrate slowly. Analgesia reaches peak 12 hrs after application; may persist 12-24 hrs after removal. High equianalgesic potency; do not use in opiate-naïve patients.
Hydromorphone ER (EXALGO)	8-64 mg PO Q 24 hrs, based on equianalgesic conversion table.	Very expensive. Sometimes effective when analgesia from other narcotics has waned. Acceptable with renal disease, but reduce dose 50-75% in moderate-severe CRF. High equianalgesic potency; do not use in opiate-naïve patients.
Levorphanol (LEVO-DROMORAN, GENERIC ER)	2-4 mg PO Q 6-8 hrs PRN. Parenteral form available in some countries.	Very long half-life of 16-18 hrs, despite the need for dosing Q 6-8 hrs. Incomplete cross-tolerance with other opiates; use a very

		conservative interpretation of equianalgesic tables. Risk of accumulation; wait 72 hrs between dosage increases. Q 6-8 hr dosing makes it most commonly used as a breakthrough med, though may be useful as maintenance drug in some patients.
Methadone	2.5-10 mg PO Q 8-12 hrs. 2.5-5 mg SC/IV Q 8-12 hrs.	Very long, variable half-life. Titrate very slowly to effect; it may take 3-5 days to achieve full analgesic effect. Peak sedation and respiratory depressant effects may occur later than peak pain effect; always write "hold for sedation." Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables. Relatively safe with renal disease.
Morphine ER Twice-Daily (MS CONTIN, GENERIC ER)	15-30 mg PO Q 12 hrs.	There are once-daily and sprinkle versions, but they are branded, more expensive. Caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.
Morphine ER Once-Daily (KADIAN, AVINZA)	See brands for cap sizes/dosing. Can try once-daily dosing, though still may need twice daily. Unlike regular morphine, there are brand-specific maximal doses. May open cap & sprinkle, but do not crush/chew/dissolve.	Combination of immediate & delayed-release. Very expensive. Caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.
Morphine ER/Naltrexone tamper-resistant (EMBEDA)	Individualize based on equianalgesic conversion table. Q 24 hrs, to Q 12 hrs if necessary. May open cap & sprinkle, but do not crush/chew/dissolve.	Naltrexone passes through gut unabsorbed if taken correctly; if abuse attempted by crushing/dissolving, it at least partially blocks euphoria from morphine. Expensive.
Oxycodone ER (OXYCONTIN)	10-80 mg PO Q 12 hrs.	A commonly used, first-choice maintenance medicine.
Oxymorphone ER (OPANA ER, GENERIC ER)	5-40 mg PO Q 12 hrs.	Expensive, even as generic. Give PO doses 1 hr before or 2 hours after meals. High equianalgesic potency.
Tapentadol ER (NUCYNTA ER)	Start at 50 mg PO Q 12 hrs; may increase by 50 mg every 3 days, up to 500 mg/day. Do not crush/chew/dissolve.	Weak mu agonist/norepinephrine reuptake inhibitor. Weaker than morphine, perhaps fewer GI effects, same CNS effects.
Tramadol ER (ULTRAM ER, GENERIC ER)	100-300 mg/day.	Expensive, even as generic. Low potency, so probably not a practical maintenance choice in most chronic pain settings.

#### D. Unrecommended agents.

1. Meperidine (Demerol).
  - a. Poorly absorbed orally.
  - b. Short half-life.

- c. Principal metabolite has no analgesic properties, has a longer half-life, is renally excreted, and produces significant adverse effects—tremulousness, dysphoria, myoclonus, and seizures.
  - d. As a result of the above, routine dosing at therapeutic levels exposes the patient to unnecessary risk of adverse effects, particularly if renal clearance is impaired.
2. Propoxyphene (Darvon, Darvocet). [Removed from U.S. market 2010.]
- a. Typically administered at doses that produce relatively little analgesia.
  - b. Dose escalation can lead to accumulation of a toxic metabolite.
  - c. Dose escalation of the acetaminophen combination product can lead to excessive acetaminophen dosage.
3. Mixed opioid agonist-antagonists.
- a. Examples: Pentazocine (Talwin), butorphanol (Stadol), buprenorphine (Buprenex, Subutex, Butrans), nalbuphine (Nubain).
    - i) Note that a buprenorphine patch (Butrans) is marketed for chronic pain, though it remains a dubious choice for the reasons stated below.
    - ii) Usually expensive, branded.
  - b. Should not be used in a patient already taking a pure opioid agonist, as they may cause a withdrawal reaction.
  - c. Not advisable as routine analgesics, since their dosing is limited by a ceiling effect.
  - d. Pentazocine and butorphanol are associated with a relatively high risk of psychotomimetic adverse effects.
4. Barbiturates and barbiturate combinations.
- a. Examples: Acetaminophen/butalbital/caffeine (Esgic, Fioricet), aspirin/butalbital/caffeine (Fiorinal).
  - b. Barbiturates are CNS depressants, with no inherent analgesic properties. In fact, there is evidence that, in low doses, they actually *hyperalgesic*, partially negating the analgesic effect of the other components.
  - c. Barbiturates are habituating, and thus have a high abuse potential. Psychological and physical dependence may occur; the severity of withdrawal symptoms are determined by the amount, duration, and continuity of their use.

E. Equianalgesic narcotic conversions.

1. Equianalgesic conversions generally compare to a standard dose of morphine 10 mg parenterally, which is equivalent to morphine 30 mg orally.
2. Theoretically, tramadol 400 mg would be equivalent to 30 mg morphine orally, but this is not a recommended dose.
3. Dosing conversions are approximate, given the variability of individual response and incomplete cross tolerance.
4. Given this variability, it is wise to begin with 50-70% of the calculated equianalgesic dose, and titrate to effect; for the more potent narcotics, many would advise starting at 30-50% of the calculated equianalgesic dose. Also note the specific dosing considerations for methadone discussed above.

5. Equianalgesic narcotic conversion table:

Medication	Equianalgesic Doses	
	Parenteral	Oral
Morphine	10 mg	30 mg
Codeine	120 mg	200 mg
Fentanyl (DURAGESIC)	0.1 mg	individualize
Hydrocodone (LORTAB)	N/A	30 mg
Hydromorphone (DILAUDID)	1.5 mg	7.5 mg
Levorphanol (LEVO-DROMORAN)	2 mg (single dose; reduce to 1 mg for chronic dosing)	4 mg (single dose; reduce to 1 mg for chronic dosing)
Methadone	5 mg	10 mg
Oxycodone (TYLOX, OXYCONTIN)	N/A	20 mg
Oxymorphone (OPANA)	N/A	10 mg
Tapentadol (NUCYNTA)	N/A	Not formally established; clinical trials suggest 100 mg
Fentanyl (DURAGESIC) Patch	24 Hour Oral MS Dose = Initial Patch Dose	
	45 mg	12 mcg/hr
	90 mg	25 mcg/hr
	180 mg	50 mcg/hr
	360 mg	100 mcg/hr

VI. ADJUNCTIVE PHARMACOLOGIC MEASURES

A. Acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs).

1. Acetaminophen is generally safe, with mild analgesic effects additive to other agents. One must note that acetaminophen is a component of many narcotic combination agents, and the total dosage of acetaminophen may actually be the limiting dosing factor.
2. Nonsteroidal anti-inflammatory drugs can provide analgesic effects additive to other agents; they are sometimes included in narcotic combination products. One must take note of their known gastrointestinal, hepatic, and renal toxicities, which may preclude use in many patients.

B. Antidepressants.

Depression is often concomitant with chronic pain, and antidepressants can treat this problem; in addition, they may be directly effective for pain in the absence of depression. The possibility of at least initially increased suicidal ideation at the start of antidepressant therapy should be considered.

1. Tricyclics.
  - a. There is good evidence of efficacy in chronic pain, especially neuropathic pain.
  - b. Most are generic and inexpensive.
  - c. Anticholinergic side effects are common, especially in the tertiary amines, such as amitriptyline and imipramine, so they would be best avoided in the elderly. The sedative effect could be useful in some patients, however.
  - d. The secondary amines, such as desipramine and nortriptyline, have fewer anticholinergic effects.
  - e. Other considerations include cardiac conduction abnormalities, and narrow-angle glaucoma exacerbation.
2. Selective serotonin reuptake inhibitors (SSRIs).
  - a. Evidence of efficacy in chronic pain is relatively sparse.
  - b. Several branded and generic options are available.
  - c. Side effects include nausea, constipation, sedation or agitation, serotonin syndrome, weight gain, sexual dysfunction, decreased libido, and insomnia. However, often they are better-tolerated and safer than tricyclics.
3. Serotonin and norepinephrine Reuptake inhibitors (SNRIs).
  - a. There is good evidence of efficacy in chronic pain.
  - b. Venlafaxine (Effexor) is available generically; it exhibits only serotonergic effects below doses of 150 mg. Duloxetine (Cymbalta) and milnacipran (Savella) are not available generically, but are marketed specifically for treatment of pain. Desvenlafaxine (Pristiq) may have efficacy similar to venlafaxine; it is only marketed for depression.
  - c. Side effects are similar to those of the SSRIs: nausea, constipation, sedation or agitation, serotonin syndrome, weight gain, sexual dysfunction, decreased libido, and insomnia.
4. Bupropion (Wellbutrin).
  - a. Evidence of efficacy in chronic pain is very limited.
  - b. While both are available generically, the SR generic is cheaper than the XL generic.

- c. The SR version has to be dosed BID; the XL version is dosed once daily.
- d. Side effects include agitation or sedation, insomnia, weight loss, and lowering of seizure threshold.

C. Anticonvulsants.

1. First generation agents.

- a. There is good evidence of efficacy in chronic pain.
- b. Several branded and generic options are available.
- c. Examples include carbamazepine (Tegretol, Carbatrol), oxcarbazepine (Trileptal), valproate (Depakene), divalproex (Depakote), and phenytoin (Dilantin).
- d. Side effects include dizziness, sedation, ataxia, confusion, nausea, gingival hypertrophy; rarely blood dyscrasias, hepatotoxicity, and other severe hypersensitivity reactions are seen.

2. Second generation agents.

- a. There is good evidence of efficacy in chronic pain, especially neuropathic pain.
- b. Examples include gabapentin (Neurontin, generic), pregabalin (Lyrica), and lamotrigine (Lamictal, generic).
- c. Side effects include dizziness, sedation, ataxia, fatigue, nausea, weight gain, and serious toxic rashes (with lamotrigine).
- d. It may take several weeks to see maximum efficacy with gabapentin.
- e. Pregabalin and lamotrigine are scheduled, but there is low risk of abuse.

D. Corticosteroids.

- 1. May be useful in the presence of acute nerve compression, increased intracranial pressure, bone pain, visceral pain (obstruction and/or capsular distention), anorexia, nausea, and depressed mood.
- 2. Dexamethasone is often the drug of choice, due to its long half-life and minimal mineralocorticoid effect.
- 3. Given the well-known side effects of chronic steroids, they are often best reserved for episodic use, or in the face of terminal illness.

4. Steroid psychosis should be considered if an agitated delirium appears.

E. Miscellaneous.

1. Caffeine 65-200 mg/dose may increase the analgesic effect of acetaminophen, aspirin, and non-steroidal anti-inflammatory drugs.
2. Hydroxyzine 25-50 mg parenterally or 50-100 mg PO may add to the analgesic effect of opiates while also relieving nausea.
3. For bone pain, bisphosphonates (alendronate, pamidronate), calcitonin, radiopharmaceuticals, and external beam radiation may be useful adjuncts to opioids, NSAIDs, and corticosteroids.
4. For bowel obstruction not amenable to mechanical or surgical intervention, anticholinergics, such as dicyclomine (Bentyl) and scopolamine, may be useful.
5. Topical anesthetics, such as capsaicin and the lidocaine 5% patch, may be effective for episodic, localized pain flare-ups; they may be particularly useful for neuropathic pain. They have not been extensively studied for long-term use, and their practical usefulness may be limited by body geography or poor tolerance of localized burning.

F. Adjunctive pain medication summary table. (Partially adapted from Maizels, Morris, and Bill McCarberg; Antidepressants and Antiepileptic Drugs for Chronic Non-Cancer Pain; Am Fam Physician 2005;71:483-90.)

DRUG	DOSAGE	SIDE EFFECTS, CAUTIONS, & NOTES
<b>Antidepressants</b>		
<i>Tricyclics</i>		SE: Dry mouth, constipation, urinary retention, sedation, weight gain, possibility of at least initially increased suicidal ideation. CI: Cardiac conduction abnormalities, recent cardiac events, narrow-angle glaucoma. Notes: Good evidence of efficacy in chronic pain; most all generic.
Amitriptyline (ELAVIL) Imipramine (TOFRANIL)	10-25 mg QHS; increase by 10-25 mg every 3 wks to effect or 150 mg.	Notes: Tertiary amines have greater anticholinergic effects—avoid use in elderly.
Desipramine (NORPRAMIN) Nortriptyline (PAMELOR)	25 mg QHS; increase by 25 mg every 3 wks to effect or 150 mg.	Notes: Secondary amines have fewer anticholinergic effects.
<i>Selective Serotonin Reuptake Inhibitors</i>		SE: Nausea, constipation, sedation or agitation, serotonin syndrome, weight gain, sexual dysfunction, decreased libido, insomnia, possibility of at least initially increased suicidal ideation. Notes: Efficacy in chronic pain is relatively poor; several branded & generic.

<i>Serotonin &amp; Norepinephrine Reuptake Inhibitors</i>		SE: Nausea, constipation, sedation or agitation, serotonin syndrome, weight gain, sexual dysfunction, decreased libido, insomnia, possibility of at least initially increased suicidal ideation. Notes: Good evidence of efficacy in chronic pain.
Duloxetine (CYMBALTA)	20-60 mg QD; for pain consider 60 mg BID.	
Milnacipran (SAVELLA)	50 mg BID; for pain consider 12.5 mg QD x1 day, then 12.5 mg BID x2 days, then 25 mg BID x4 days, then 50 mg BID; Max: 200 mg/day.	
Venlafaxine (EFFEXOR)	Start at 37.5 mg QD; increase to 75 mg/150 mg/225 mg/max 300 mg every 3 wks.	Notes: Only serotonergic effects below 150 mg; generic.
<i>Novel Antidepressants</i>		
Bupropion (WELLBUTRIN)	Start at 150 mg XL QAM; increase to 300 mg in a wk if necessary.	SE: Agitation or sedation, insomnia, weight loss, lowering of seizure threshold, possibility of at least initially increased suicidal ideation. Notes: Evidence of efficacy in chronic pain is very limited; the SR generic is cheaper than the XL generic, but it has to be dosed BID.
<b>Anticonvulsants</b>		
<i>First-Generation Agents</i>		Notes: Good evidence of efficacy in chronic pain; many generics.
Carbamazepine (TEGRETOL, CARBATROL)	Start at 100 mg BID; titrate to 1200 mg/day divided BID-QID.	SE: Dizziness, sedation, rarely aplastic anemia & other severe hypersensitivity reactions. Notes: There are branded ER formulations.
Oxcarbazepine (TRILEPTAL, GENERIC)	Start at 300 mg BID; titrate 600 mg/day weekly up to 1200 mg BID.	SE: Same as carbamazepine, though usually less severe.
Phenytoin (DILANTIN)	Start at 100 mg QHS; titrate every 1-3 wks, to 500 mg QHS max.	SE: Dizziness, sedation, ataxia, confusion, nausea, gingival hypertrophy, rarely blood dyscrasias, hepatotoxicity, & other severe hypersensitivity reactions. Notes: There are branded ER formulations.
Valproate (DEPAKENE), Divalproex (DEPAKOTE)	Start at 250 mg BID, titrate rapidly to lowest effective dose, typically as high as 500 mg TID.	SE: Dizziness, sedation, ataxia, confusion, nausea, rarely blood dyscrasias, hepatotoxicity, pancreatitis, & other severe hypersensitivity reactions. Notes: There are generic versions of valproate.
<i>Second-Generation Agents</i>		Notes: Good evidence of efficacy in chronic pain.
Gabapentin (NEURONTIN)	Start at 300 mg QD; titrate every few days to max 3600 mg/day divided TID.	SE: Dizziness, sedation, ataxia, fatigue, nausea, weight gain. Notes: Maximum efficacy may be seen several wks after initiation; generic.
Lamotrigine (LAMICTAL)	Start at 50 mg QD; titrate every 2 wks to max 400 mg/day divided QD-BID.	SE: Dizziness, nausea, constipation, rarely serious toxic rashes. Notes: Scheduled, but low risk of abuse; generic.

Pregabalin (LYRICA)	Start at 75 mg BID; titrate every few days to max 300 mg/day divided BID-TID.	SE: Dizziness, sedation, ataxia, fatigue, nausea, weight gain. Notes: Scheduled, but low risk of abuse.
<b>Corticosteroids</b>		
Dexamethasone, several others	2-20 mg or more QD.	SE: Proximal myopathy, candidiasis, bone loss, and other toxicities are possible, but are seldom a problem in the setting of terminal disease. Observe for steroid-induced psychosis. Notes: Dexamethasone is preferred, due to its long half-life and minimal mineralocorticoid effect.
<b>Nonsteroidal Anti-inflammatory Drugs</b>		
Many	Various.	SE: Gastrointestinal, hepatic, and renal toxicities. Notes: NSAIDs can provide analgesic effects additive to other agents, but their toxicities may preclude use in many patients.
<b>Miscellaneous</b>		
Caffeine	65-200 mg per opiate dose.	May increase the analgesic effect of acetaminophen, aspirin, and NSAIDs.
Hydroxyzine	25-50 mg parenterally or 50-100 mg PO per opiate dose.	May add to the analgesic effect of opiates while also relieving nausea.
Topical analgesics (lidocaine, capsaicin, diclofenac, others)	Various.	Helpful for neuropathic and localized orthopedic pain.

Dosing information and cautions are abbreviated; see prescribing information for individual agents. SE = Side Effects. CI = Contraindications.

## VII. ADJUNCTIVE NONPHARMACOLOGIC MEASURES

### A. Physical therapy: exercise and rehabilitation.

1. Rehabilitative strategies are especially appropriate in patients with persistent nonmalignant pain associated with impairment in physical functioning and deconditioning. While they may not provide adequate pain relief when used alone, they often lead to demonstrable improvements in quality of life and functional ability.
2. Therapeutic exercise (physical therapy) can be an extremely helpful adjuvant to pain management. Patients with persistent pain may restrict activity, believing it makes their pain worse or does physical harm. This results in physical deconditioning, which further complicates chronic pain syndromes. Once serious underlying physical pathology has been excluded, patients should be educated that “hurt does not equal harm;” in fact, when physical deconditioning is reversed with gentle and appropriate exercise, pain levels may decrease. Moderate levels of physical activity should be maintained, even if the pain persists, and the program should include exercises that improve flexibility, strength, and endurance.
3. External mechanical supports, such as braces and splints, may provide relief from movement-related pain.
4. Other rehabilitative strategies include work hardening programs, vocational training, and occupational therapy.

### B. Physical therapy: pain management modalities.

1. In addition to exercise and function-oriented interventions, physical therapists can also provide a variety of pain management modalities. Evidence-based data is often limited or conflicting, and there appears to be a good deal of individual variability with regard to response.
2. Heat, cold, or alternating heat and cold may be helpful in chronic pain, especially for episodic exacerbations.
3. Therapeutic massage, perhaps augmented by liniment, vibration, or ultrasound, may also relieve pain. Massage is thought to transiently alter physiological responses to pain, and to induce relaxation.
4. Transcutaneous electrical nerve stimulation (TENS) involves pulsed transcutaneous electrical stimulation, under the gate control theory of pain, which states that non-noxious dorsal horn stimulation may inhibit transmission of pain information from the periphery to the brain. Although it has been difficult to show benefit from TENS in controlled trials, individual successes have occurred, and a trial is justified in selected patients.

C. Invasive/interventional modalities.

1. Various sensory nerve blocks, sympathetic nerve blocks, and injection therapies may provide pain relief in selected, difficult to manage cases.
2. There is limited to moderate evidence that epidural steroid injections can provide long-term relief from cervical pain or lumbar pain.
3. Specialists may be able to provide implant therapies, such as dorsal column stimulation and neuraxial infusion pumps, in highly selected patients.

D. Cognitive behavioral therapy (CBT).

1. Cognitive-behavioral therapy encompasses the gamut of psychological interventions that can be taught to patients to lessen pain intensity, improve coping, increase function, and reduce overall disability. Studies have demonstrated that patients are often receptive to such measures.
2. Persistent pain sufferers may demonstrate negative thought patterns, such as overgeneralization, catastrophizing, all-or-none-thinking, jumping to conclusions, selective attention, and negative predictions, all of which can increase the emotional difficulty of living with pain.
3. Examples of psychological approaches to pain management include relaxation, imagery, hypnosis, biofeedback, art therapy, music therapy, distraction methods, coping techniques, time management, sleep hygiene training, and psychotherapy.
4. Multidisciplinary consultation may be necessary to take full advantage of many of these methods.

E. Alternative therapies.

1. Acupuncture is among the oldest interventions for pain, though it has remained a source of controversy among physicians not trained in this discipline, because there is no clear understanding of its physiological effects that is acceptable to Western concepts of medicine. Nonetheless, existing evidence indicates that it can be effective for pain.
2. Chiropractic and manipulative therapy focuses on the relationship between bodily structure and function, and how that relationship affects the preservation and restoration of health; these are also concepts that can be difficult to reconcile with Western concepts of medicine. Studies, primarily on back pain, have shown short-term positive results with regard to pain and disability, superior to sham therapies, but not superior to effective conventional treatments.

3. Herbs and nutritional supplements are commonly embraced by patients, though there is not an abundance of controlled studies supporting them. Given the variability of the available preparations, and the possibility of interaction with several over-the-counter and prescription medications, their use is not widely recommended.

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## CHAPTER 2

### SEDATIVE/HYPNOTIC MANAGEMENT GUIDELINES

#### I. MEDICATIONS AND OTHER THERAPEUTIC MEASURES

##### A. Definitions.

Sedatives/hypnotics are medications that are used to reduce anxiety or to induce sleep. Medications that relieve anxiety are also called “anxiolytics” or “tranquilizers.” The term “hypnotics” generally refers to sleeping medications. Regardless of their marketed indications, many of these medications have both anxiolytic and sedative effects.

##### B. Scope.

This chapter discusses general prescribing recommendations, but not specific drug dosing guidelines.

##### C. Anxiolytics.

###### 1. Benzodiazepines.

- a. Benzodiazepines make up the largest class of anxiolytics. Many are available generically.
- b. Benzodiazepines are rapidly effective for anxiety, and are thus highly sought-after by patients with previous experience with them.
- c. There are a number of agents with both long and short half-lives.
- d. There are a number of safety considerations with benzodiazepines:
  - i) Physiologic dependence, which can lead to potentially dangerous withdrawal symptoms, such as seizures.
  - ii) Psychological dependence and habituation, leading to problems with abuse and diversion, and well as rebound anxiety upon discontinuation.
  - iii) Sedation-related side effects, including memory impairment, confusion, and ataxia.
  - iv) Concomitant use of alcohol potentiates all of the above concerns.

- e. Despite these drawbacks, benzodiazepines are sometimes the most effective option for some of the more severe anxiety syndromes, such as panic attacks or post-traumatic stress disorder. Their primary benefit, however, is rapid onset, and some evidence suggests that SSRIs are equally, if not more, effective in the long-term.
2. Selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs).
- a. SSRIs and SNRIs are primarily antidepressant agents, but they also have significant anxiolytic effects. There are several branded and generic options available.
  - b. While there are some safety considerations with these medications, and prescribers should become familiar with the agents they use, there is less problem with sedation, little danger in overdose, and virtually no risk of physiologic or psychological dependence.
  - c. SSRIs and SNRIs thus are often more appropriate choices for anxiety than benzodiazepines. They may also be used concomitantly with benzodiazepines, reducing the amount needed.
3. Other pharmacologic agents.
- a. Antihistamines, such as diphenhydramine (Benadryl) and hydroxyzine (Vistaril), also have at least modest anxiolytic effects; these effects are more prominent at higher doses. They are rapid-acting, and present a viable option to benzodiazepines, especially in benzodiazepine-naïve patients. Patients who have experience with benzodiazepines will rarely be satisfied with these agents. Sedation is a common side effect—though this may not be totally undesirable.
  - b. Buspirone appears to be as effective as benzodiazepines for the treatment of general anxiety, but the onset of action can be several weeks. There is less risk of sedation, and virtually no risk of physiologic or psychological dependence. Given other short-term supportive care, buspirone is an attractive option to benzodiazepines, especially in benzodiazepine-naïve patients. However, it appears to be less satisfactory to patients who have experience with benzodiazepines.
  - c. Tricyclic antidepressants have at least some anxiolytic effect, though the onset is slow, and anticholinergic side effects are common; there are also other considerations, including cardiac conduction abnormalities and high mortality in overdose. While they may have an adjunctive role in difficult-to-manage patients, their use has largely been supplanted by SSRIs/SNRIs.
  - d. Beta adrenergic blockers are sometimes used on a PRN basis for performance anxiety. They are best used in small doses under well-defined circumstances. To avoid psychological dependence, it is advisable to consider concomitant behavioral

therapy, which is often quite effective in such instances. Orthostatic hypotension and bradycardia can be limiting side effects.

- e. Monoamine oxidase inhibitors have exhibited utility in some anxiety disorders. Given their numerous and potentially serious dietary and drug interactions, they are best reserved for use in exceptional circumstances by experienced prescribers.
  - f. The second generation anticonvulsants gabapentin (Neurontin, generic) and pregabalin (Lyrica), have exhibited utility in some anxiety disorders. They are generally safe, and may be used in combination with other agents.
  - g. Older medications, such as barbiturates and “non-barbiturate barbiturates” like meprobamate, are still available, though they are rarely used, since they have most all of the same sedation, addiction, and habituation effects as benzodiazepines, often to a more severe degree, with a greater risk of death in accidental or purposeful overdose.
4. Cognitive-behavioral therapy (CBT) has been shown in several randomized controlled trials to be at least as efficacious as drugs for treatment of panic and other anxiety disorders; improvements are often maintained or increased in the 6-12 months after completion of treatment, without the deleterious effects of pharmacologic agents. These measures are best employed by practitioners with specialized training.

#### D. Hypnotics.

##### 1. Benzodiazepines.

- a. Benzodiazepines have in recent decades been the largest and most frequently used class of sleeping medications. Many are available generically.
- b. Adverse reactions and safety considerations are discussed above under the Anxiolytics heading.
- c. In addition to those considerations, note that agents with long half-lives have a high risk of morning carryover sedation, while those with short half-lives may allow the patient to awaken during the night, requiring a second dose.
- d. Infrequent, PRN use of benzodiazepines for sleep is probably generally safe, though it is very common for patients to escalate usage to every night, developing habituation.

##### 2. Non-benzodiazepine benzodiazepines.

- a. Also known as GABA-benzodiazepine receptor agonists, these are drugs that are not structurally related to benzodiazepines, but bind to the same receptors and/or some very closely-related receptors.

- b. Examples include zaleplon (Sonata), zolpidem (Ambien, Ambien CR, generics), and eszopiclone (Lunesta).
  - c. These medications have the potential for all of the adverse effects and safety considerations described above for benzodiazepines, though to date they appear to occur somewhat less frequently.
3. Other agents.
- a. Antihistamines, such as diphenhydramine (Benadryl) and hydroxyzine (Vistaril), have sedative effects. They may have carryover sedation into the next day, and, of course, are associated with antihistaminic side effects. They may be useful for intermittent, short-term use, but have not been shown to be helpful in long-term management of insomnia.
  - b. Tricyclic antidepressants, especially the tertiary amines, have sedative effects. The sedative effect appears at initiation of treatment, and may wane with continued use. Anticholinergic side effects are common, and there are also other considerations, such as cardiac conduction abnormalities and high mortality in overdose. They are most useful in insomnia with coexistent depression, but have not been shown to be effective in the management of chronic insomnia without depression.
  - c. Ramelteon (Rozerem) is a melatonin receptor agonist that has been approved for use in patients with insomnia characterized by difficulty with sleep onset. It appears safe, with no abuse potential, but has displayed unimpressive objective and subjective benefits on sleep efficacy.
  - d. Older medications, such as barbiturates and “non-barbiturate barbiturates” are still available, though they are rarely used, since they have most all of the same sedation, addiction, and habituation effects as benzodiazepines, often to a more severe degree, with a greater risk of death in accidental or purposeful overdose. One such agent still in relatively common use is chloral hydrate, which is sometimes employed for medical procedural sedation.
  - e. Various herbal and nutraceutical agents, such as valerian and melatonin, are marketed for insomnia. As with many such agents, preparations may vary widely, and there are few well-designed studies showing significant benefits on sleep efficacy. Melatonin may be an exception; it may have a modest hypnotic effect, and it appears safe in at least short-term use. It may be most useful in circadian rhythm disturbances, such as jet-lag. There are a wide range of preparations and recommended doses.
4. Cognitive-behavioral therapy (CBT) includes several nonpharmacologic interventions that have been shown to improve sleep efficacy.

- a. Examples include relaxation therapy, biofeedback, stimulus control therapy, sleep restriction, and sleep hygiene measures.
- b. With the exception of sleep hygiene counseling, many of these methods are most commonly employed by practitioners with specialized training.
- c. While data show that long-term sleep improvements may be comparable to pharmacologic measures, without the drawbacks of medical therapy, there is not a clear consensus as to the relative efficacy of specific techniques. They are often used in combination, with or without hypnotic medications.
- d. Sleep hygiene counseling is effective and easily given by primary care providers. Recommendations include the following:
  - i) Sleep only as much as needed to feel rested.
  - ii) Keep a regular sleep schedule, both on work and non-work days; set an alarm clock to wake up at a fixed time each morning, including weekends.
  - iii) Avoid forcing sleep; go to bed only when sleepy.
  - iv) Get out of bed if unable to fall asleep within 10-15 minutes, and go to another room. Return to bed only when sleepy. Repeat this step as many times as necessary throughout the night.
  - v) Do not go to bed hungry, but do not eat a large meal within 2-3 hours of bedtime.
  - vi) Deal with and “set aside” worries before getting into bed.
  - vii) Do not watch television, read, or eat in bed. Use bed only for sleep and sex.
  - viii) Naps are generally detrimental to evening sleep. For someone who has established brief naps as a long-time practice, and who feels more refreshed and functional after a brief nap, it may be advisable to continue them, though it should be recognized that this will reduce total evening sleep time.
  - ix) Quit smoking.
  - x) Avoid caffeinated beverages after lunch.
  - xi) Avoid alcohol within 3-4 hours of bedtime.
  - xii) Exercise regularly, preferably a least 20 minutes per day, but not within 3-4 hours of bedtime.

E. Selected oral benzodiazepines and non-benzodiazepine benzodiazepines on the U.S. market, with approximate equivalencies to diazepam 10 mg. Adapted from Ashton, C. Heather; Benzodiazepines: How They Work And How To Withdraw.

	<b>Half-life (hours) [active metabolite]</b>	<b>Equivalent dosages (mg)</b>	<b>Primary Market Aim</b>
<b>Benzodiazepines</b>			
Alprazolam (Xanax)	6-12	0.5	anxiolytic
Chlordiazepoxide (Librium)	5-30 [36-200]	25	anxiolytic
Clonazepam (Klonopin)	18-50	0.5	anxiolytic, anticonvulsant
Clorazepate (Tranxene)	[36-200]	15	anxiolytic
Diazepam (Valium)	20-100 [36-200]	10	anxiolytic
Estazolam (ProSom)	10-24	1-2	hypnotic
Flurazepam (Dalmane)	[40-250]	15-30	hypnotic
Lorazepam (Ativan)	10-20	1	anxiolytic
Oxazepam (Serax)	4-15	20	anxiolytic
Temazepam (Restoril)	8-22	20	hypnotic
Triazolam (Halcion)	2	0.5	hypnotic
<b>Non-benzodiazepine benzodiazepines</b>			
Zaleplon (Sonata)	2	20	hypnotic
Zolpidem (Ambien )	2	20	hypnotic
Eszopiclone ( Lunesta )	6-9	3	hypnotic

## II. POLICIES AND PROCEDURES

A. For new patients seeking sedatives/hypnotics, or established patients newly seeking such medicines, observe the following rules and workflow:

1. Assess the etiology of the patient’s symptoms or request for sedatives/hypnotics.
2. Assess the appropriateness of further diagnostic or therapeutic measures, or specialty referral. Treat any comorbid medical problems identified that could be adversely affecting anxiety or sleep.
3. Initiate and maximize nonpharmacologic measures to address the patient’s symptoms.
4. If the patient’s problem appears to merit pharmacologic treatment, initiate the safer, non-habituating options outlined above.
  - a. Patients may sometimes be resistant to such medications, stating they haven’t worked in the past, or that they have had various side effects or “allergies” to them. Point out that there are several agents to choose from, and that most often one can be found that is helpful and tolerable. Also explain that many side effects are self-limited, or are actually manifestations of anxiety or sleep deprivation themselves.
  - b. The physician is under no obligation to initiate sedatives/hypnotics, or to continue a prescription from another physician. If the patient continues to press for such

medications, it is often helpful to explain that, while every appropriate treatment will be employed to help with the patient's symptoms, if the patient's primary goal is to obtain these medications, he/she is not likely to be satisfied in this medical practice.

- c. If the patient continues to be demanding or disruptive, tell the patient that it appears a physician/patient relationship cannot be established or continued, and submit the case to the Clinical Management Team. If necessary to maintain safety or decorum, call security.
5. For younger or benzodiazepine-naïve patients, be *very reluctant* to initiate benzodiazepines and similar habituating medications.
    - a. Exhaust all other options, and consider psychiatric referral before initiating long-term benzodiazepines.
    - b. For a well-defined, short-term indication, benzodiazepine use *may be cautiously considered*. Explain to the patient that it is intended only for short-term use, warn about habituation potential and side effects, and explain that if there should appear to be an ongoing need for such medications, better alternatives will be sought out.
  6. If it is determined that sedative/hypnotic prescribing is appropriate, observe the following procedures:
    - a. Discuss departmental policies with the patient, and have the patient complete a CONTROLLED SUBSTANCES AGREEMENT, including the appropriate RISKS AND SIDE EFFECTS FORM.
    - b. Question the patient about a history of previous substance abuse. In the absence of such history, have the patient complete the OPIOID RISK TOOL. If there appears to be a high risk of opioid abuse, it is logical to assume there is a high risk of abuse of sedatives/hypnotics. While there may be occasions when sedative/hypnotic prescribing is appropriate in such patients, these circumstances are difficult to manage, and this is generally outside the scope of the typical primary care practice. Psychiatric referral should be made instead.
    - c. Given that depression is often concomitant with anxiety and insomnia, assess for depression with the BECK DEPRESSION INVENTORY, and treat accordingly.
    - d. Other major psychiatric diagnoses, such as schizophrenia and bipolar disorder, can make anxiety management very difficult. Many of these cases will be beyond the scope of a primary care office, and should prompt referral to appropriate psychological or psychiatric consultants.

- e. Explain that it is unrealistic to expect complete resolution of all symptoms of anxiety or insomnia, though symptoms can usually be managed, and quality of life can be improved.
  - f. Use the lowest dose of the mildest medicine necessary, for the shortest period of time possible.
  - g. Continue and/or further explore alternative pharmacologic and nonpharmacologic treatment modalities.
  - h. Initially plan frequent follow-up visits, reassessing the patient's level of symptoms, side effects, and the effectiveness of the prescribed measures.
  - i. Monitor for compliance, appropriate drug usage, and inappropriate behavior such as diversion. Urine drug screens should be obtained at the discretion of the physician.
  - j. Once the patient's condition is stabilized at a satisfactory level, follow-up visits may be reduced to every three months.
- B. For patients who are already established in the practice, and who are already taking sedatives/hypnotics, observe the following rules and workflow:
1. Recognize that there is constant physician turnover in the residency's medical practice, and thus it will be common to take over the care of patients who are using sedatives/hypnotics. The physician assuming such care should review the patient's history and physical exam, and determine if continued prescribing of such medications is appropriate, rather than just automatically refilling these prescriptions.
  2. If there are any doubts about the appropriateness of sedatives/hypnotics, further diagnostic evaluation should be undertaken.
  3. If it is evident that there are safer pharmacologic or nonpharmacologic measures that should be considered, institute them.
  4. The above notwithstanding, keep in mind the potentially dangerous consequences of sedative/hypnotic withdrawal, primarily seizures. In many cases, it is wise to continue the patient's current medications while pursuing alternative treatments and diagnoses.
  5. If it is determined that ongoing sedative/hypnotic prescribing is not warranted, the patient should be informed, and a tapering reduction of these medications should be initiated. Benzodiazepines can typically be tapered by 25% per week without physically dangerous sequelae.
  6. It should be recognized that there are some circumstances where continuing sedatives/hypnotics may be the most reasonable course of action, even if the physician personally might not have chosen to initiate them. An example would be an patient

with many years of benzodiazepine use, on a stable dose, functioning at a comfortable level, without any untoward side effects; attempting withdrawal of benzodiazepines for such a patient would likely be met with rebound symptoms, dissatisfaction on the part of the patient, and frustration on the part of the physician. Under these conditions, it may be best to continue a stable dose, avoiding dosage escalation, and consider other agents, such as SSRIs/SNRIs, to minimize the need for benzodiazepines.

7. Once it is determined that ongoing sedative/hypnotic prescribing is warranted, proceed with prescribing policies as discussed under II.A.7 above.

#### C. Discontinuation or interruption of benzodiazepines and related medications.

While the practice's CONTROLLED SUBSTANCES AGREEMENT explains that controlled substances are not refilled after hours or over the phone, there will be times the on-call physician will be contacted by patients who state they are out of their medications, raising the specter of the consequences of benzodiazepine withdrawal.

1. A general policy should be to make the patient come to the Emergency Department to be evaluated if he/she feels like she needs a refill before the patient's primary physician can be seen in the office.
2. If the on-call physician is personally familiar with the patient, and feels an Emergency Department visit is not necessary, this recommendation may be waived.
3. If the patient's medication and dosage are known, the patient should be prescribed enough medication to last until the office is open again.
4. If the physician is sure a patient is chronically using benzodiazepines, but there is uncertainty about the specific medication or dosage, a reasonable course of action is to prescribe enough clonazepam (Klonopin) 0.5 mg BID to last until the office is open again. The patient may not experience the same effects as the established medication would provide, but dangerous physical withdrawal symptoms will be unlikely.

#### D. Special considerations for insomnia and hypnotic use.

1. Consider medical problems that can impair sleep, and treat accordingly. Examples include:
  - a. Acquired immunodeficiency syndrome.
  - b. Asthma.
  - c. Chronic fatigue syndrome.
  - d. Chronic obstructive pulmonary disease.
  - e. Congestive heart failure.
  - f. Ischemic heart disease.
  - g. Medication side effects.
  - h. Peptic ulcer disease and reflux esophagitis.

- i. Restless legs syndrome.
  - j. Rheumatic/arthritis disorders.
  - k. Sleep apnea.
  - l. Transient, self-limited illness.
2. One should be reluctant to initiate benzodiazepines and related sleeping medications for patients who are not already established on such drugs. Focus on alternative therapies discussed above.
  3. When seeing patients who have been chronically using hypnotics every night for sleep, it is probably unrealistic to try to get them off of them. Continue a stable dose, and consider adjunctive measures rather than dosage escalation if sleeping problems should worsen in the future.
  4. Realize that, while rebound insomnia is likely if a chronic hypnotic user abruptly stops the medication, dangerous physical withdrawal is unlikely, in contrast to a patient who is habituated to multiple daily doses of benzodiazepines for anxiety.

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## CHAPTER 3

# ATTENTION DEFICIT HYPERACTIVITY DISORDER STIMULANT MANAGEMENT GUIDELINES

### I. MEDICATIONS AND OTHER THERAPEUTIC MEASURES

#### A. Definitions.

Most of the traditional medications used to manage Attention Deficit/Hyperactivity Disorder (ADHD) are stimulants; these are Schedule II controlled substances with a high potential for abuse and diversion. Other pharmacologic and nonpharmacologic agents are also available.

#### B. Scope.

This chapter discusses general prescribing, evaluation, and documentation workflow recommendations for the University of South Alabama Department of Family Medicine (USAFM). Abbreviated diagnostic and treatment information, and dosage guidelines, are also included.

#### C. Stimulants.

1. Stimulants are generally considered the most effective drugs for the treatment of ADHD in the pediatric population.
2. Stimulants affect the dopaminergic and noradrenergic systems, increasing the release of catecholamines in the central nervous system. Increased norepinephrine and dopamine concentrations in the brain stem, midbrain, and frontal cortex are thought to be responsible for the increased attention span and concentration in ADHD patients treated with stimulants.
3. Methylphenidates and amphetamines are the two major classes of stimulants; there are several short- and long-acting variants available. Some of these are available generically.
4. Common side effects include decreased appetite, sleep problems, transient headache, transient stomachache, and mild weight loss. These symptoms often improve with continued treatment, or can be managed by dosage and timing adjustments.
5. Infrequent side effects include significant weight loss, increased heart rate, increased blood pressure, dizziness, hallucinations, mania, and exacerbation of tics and Tourette syndrome (rare). These symptoms require the immediate attention of the physician. In addition, deceleration of linear growth may occur, but adult height is not affected.

6. Drug holidays, i.e., discontinuation of stimulant medications on weekends or during the summer, are not routinely recommended, but may be of use with side effect management. Examples include children who are not meeting expected growth rates, or who are having insomnia.

#### D. Non-stimulants.

##### 1. Atomoxetine (Strattera).

- a. Selective norepinephrine reuptake inhibitor.
- b. Approved for treatment of children over 6 years of age; one of only two agents specifically approved for use in adults. (The only non-stimulant.)
- c. The first FDA-approved medication for the treatment of ADHD that is not scheduled as a controlled substance. There appears to be no abuse potential.
- d. While stimulants are the best-established medication for ADHD, atomoxetine is an acceptable first-line therapy for patients in whom the side effect profile of stimulants poses an unreasonable risk (e.g., personal or family history of cardiac disease, or personal history of substance abuse). Some would consider it the first drug of choice for use in adults.
- e. Branded; more expensive than generic stimulants.
- f. Side effects.
  - i) General adverse effects of atomoxetine include weight loss, abdominal pain, decreased appetite, vomiting, nausea, dyspepsia, and sleep disturbance.
  - ii) Primarily because of reports of rare, serious cardiac events in patients receiving stimulant medications, atomoxetine is labeled with warnings of cardiac risks, such as hypertension, tachycardia, QT prolongation, myocardial infarction, and stroke.
  - iii) Atomoxetine has been reported to be associated with the onset of motor tics, though at least one trial in patients with ADHD and comorbid tic disorders found atomoxetine did not exacerbate tics compared to placebo.
  - iv) Severe hepatotoxicity has occurred on rare occasions.
  - v) Atomoxetine may increase the risk of suicidal thinking in a very small number of patients; the FDA requires a boxed warning due to this concern.
  - vi) Despite all of the above, atomoxetine is generally safe and well-tolerated.

2. Antidepressants are considered a second-line option, after stimulants and atomoxetine.
  - a. Tricyclics.
    - i) At least modestly effective alone or in combination with stimulants.
    - ii) Keep in mind tricyclic side effects and warnings.
  - b. Selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs).
    - i) The response to these agents has been less promising than tricyclics in adults with ADHD, but the data are limited.
    - ii) Few, if any, studies have been done in children.
  - c. Bupropion (Wellbutrin, generic).
    - i) Modest efficacy in decreasing hyperactivity and aggressive behavior.
    - ii) Adverse effects include motor tics and a decreased seizure threshold.
3. Alpha-2-adrenergic agonists.
  - a. Efficacy data is sparse.
  - b. May be useful in overaroused, easily frustrated, highly active, or aggressive individuals.
  - c. Potentially useful in children with comorbid tics or Tourette syndrome who are intolerant of stimulants. May be more useful as an adjunct to a stimulant (e.g, for those with side effects or at maximal dosage) than as a single agent.
  - d. Examples include clonidine (Catapres, generic) and guanfacine (Tenex, generic).
  - e. Extended-released versions of clonidine (Kapvay) and guanfacine (Intuniv) have been FDA-approved medication for the treatment of ADHD.
  - f. Side-effects of clonidine include sedation, depression, headache, and possible hypotension.

E. Summary table of pharmacologic agents for ADHD, adapted from the National Initiative for Children's Healthcare Quality ADHD Toolkit and Treatment Guidelines from The Medical Letter, with updates to include subsequently-released agents.

<b>Stimulant Medications - Immediate Release</b>			
<b>Active Ingredient</b>	<b>Drug Name</b>	<b>Dosing</b>	<b>Duration of Behavioral Effects</b>
Mixed salts of Amphetamine (Dextroamphetamine/Levoamphetamine)	ADDERALL/GENERIC tab (scored): 5, 7.5, 10, 12.5, 15, 20, 30 mg.	Start at 5 mg 1-2 times per day; increase by 5 mg weekly until control achieved. Max rec'd daily dose: 40 mg. Do not use in patients with cardiac disease.	4-6 hrs depending on dose.
Dextroamphetamine	PROCENTRA: 5 mg/tsp liq. GENERIC tabs (scored): 5, 10 mg.; 5 mg/tsp liq may be available.	Start at 5 mg 1-2 times per day; increase by 5 mg weekly until control achieved. Max rec'd daily dose: 40 mg.	4-6 hrs.
Methylphenidate	METHYLIN: 5 mg tab; 10 & 20 mg scored tabs; 2.5, 5, & 10 mg chewable tabs; 5 & 10 mg/tsp liq. RITALIN: 5 mg tab; 10 & 20 mg scored tabs. GENERIC: Similar tabs/liq.	Start at 5 mg 1-2 times per day; increase by 5 mg weekly until control is achieved. May need a third, smaller dose in the afternoon. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	3-5 hrs.
Dexmethylphenidate	FOCALIN tab: 2.5, 5, 10 mg.	Start at 2.5 mg 1-2 times per day; increase by 5 mg weekly until control is achieved. Max rec'd daily dose: 20 mg, though 30 mg may actually be needed.	5-6 hrs.
<b>Stimulant Medications - Sustained Release</b>			
<b>Active Ingredient</b>	<b>Drug Name</b>	<b>Dosing</b>	<b>Duration of Behavioral Effects</b>
Mixed salts of amphetamine (Dextroamphetamine/Levoamphetamine)	<i>Bimodal Release</i> ADDERALL XR cap (can be sprinkled): 5, 10, 15, 20, 25, 30 mg.	Start at 5-10 mg in AM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 40 mg. Do not use in patients with cardiac disease.	8-10 hrs.
Dextroamphetamine	DEXEDRINE SPANSULE/GENERIC caps (can be sprinkled): 5, 10, 15 mg.	Start at 5 mg in AM; increase by 5 mg weekly until control achieved. Max rec'd daily dose: 45 mg.	6-8 hrs.
Lisdexamfetamine	VYVANSE cap (can be opened & dissolved in water): 20, 30, 40, 50, 60, 70 mg.	Typically start at 30 mg QAM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 70 mg. No euphoric effect IV/nasally; should have less abuse potential.	Peak 1-4 hrs, duration 10-12 hrs.
Methylphenidate intermediate-acting	RITALIN SR tab: 20 mg. GENERIC SR tab: 20 mg.	Start at 20 mg in AM; increase by 20 mg weekly until control achieved. May need a 2nd dose or a regular methylphenidate dose in afternoon. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	4-8 hrs.

	METADATE/METHYLIN ER tab: 10, 20 mg.	Start at 10 mg in AM; increase by 10 mg weekly until control is achieved. May need a 2nd dose or a regular methylphenidate dose in afternoon. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	4–8 hrs.
Methylphenidate long-acting	<i>Bimodal Osmotic Release</i> CONCERTA cap (noncrushable): 18, 27, 36, 54 mg.	Start at 18 mg in AM; increase by 18 mg weekly until control achieved. Max rec'd daily dose: 72 mg.	8–12 hrs.
	<i>Bimodal Release</i> METADATE CD ER cap (can be sprinkled): 10, 20, 30, 40, 50, 60 mg. RITALIN LA cap (can be sprinkled): 10, 20, 30, 40 mg.	Start at 10 mg in AM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	8-12 hrs.
	<i>Liquid</i> QUILLIVANT XR: 5 MG/ML	Start at 20 mg PO in AM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 60 mg.	8-12 hrs.
	<i>Patch</i> DAYTRANA: 10, 15, 20, 30 mg patches.	Start at 10 mg; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 30 mg. Wear 9 hrs., remove for 15 hrs. May have more anorexia, insomnia, tics; can remove earlier to help sleep.	10-12 hrs.
Dexmethylphenidate	<i>Bimodal Release</i> FOCALIN XR ER cap (can be sprinkled): 5, 10, 15, 20, 30, 40 mg.	Start at 5 mg in AM; if changing from methylphenidate, start at 1/2 that dose. Increase by 5 mg weekly until control is achieved. Max rec'd daily dose: 30 mg peds, 40 mg adults.	12 hrs.

### Stimulant Contraindications and Side Effects

Active Ingredient	Contraindications ( <i>Stimulants can be used in children with epilepsy.</i> )
Mixed salts of amphetamine	MAO inhibitors within 14 days, glaucoma, cardiovascular disease, hyperthyroidism, moderate to severe hypertension.
Dextroamphetamine	MAO inhibitors within 14 days, glaucoma.
Methylphenidate	MAO inhibitors within 14 days, glaucoma, preexisting severe gastrointestinal narrowing. Caution should be used when prescribing concomitantly with anticoagulants, anticonvulsants, and tricyclic antidepressants.
<b>Common Side Effects:</b> Decreased appetite, sleep problems, transient headache, transient stomachache, behavioral rebound.	
<b>Infrequent Side Effects:</b> Weight loss, increased heart rate, increased blood pressure, dizziness, growth suppression, hallucinations/mania, exacerbation of tics and Tourette syndrome (rare).	
<b>Possible Strategies for Common Side Effects:</b> (In general, if one stimulant is not working or produces too many adverse side effects, try another stimulant before using a different class of medications.) Dose after meals • Try sustained-release stimulant • Decrease dose • Frequent snacks • Try drug holidays • Add reduced dose in late afternoon • Consider coexisting conditions, especially depression • Restrict or eliminate caffeine • Stable bedtime routine • Consider small bedtime medication dose • Consider referral to mental health specialist.	

<b>Non Stimulant Medications</b>		
<b>Active Ingredient</b>	<b>Drug Name</b>	<b>Dosing/Notes</b>
Atomoxetine HCL	STRATTERA cap: 10, 18, 25, 40, 60, 80, 100 mg.	Start as a single daily dose, based on weight, 0.5 mg/kg/day for the first week, then increase up to a max 1.4 mg/kg/day, all given in 1 daily dose. May cause initial somnolence/nausea, usually relieved by slower titration or splitting to BID. SNRI, so titrate slowly if using other SNRIs. No MAO inhibitors within 14 days
Clonidine immediate-release	CATAPRES/GENERIC: 0.1, 0.2, 0.3 mg scored tabs.	Off-label use; no standardized dosing. Reasonable to start at very low BID dose, increasing to effect or intolerance due to sedation or hypotension, to theoretical max 2.5 mg/day. Probably better in addition to a stimulant than instead of one.
Clonidine extended-release	KAPVAY ER tabs: 0.1, 0.2 mg	Start 0.1 mg QHS, increasing to effect or intolerance due to sedation or hypotension, to max 0.4 mg/day. Probably better in addition to a stimulant than instead of one.
Guanfacine immediate-release	TENEX/GENERIC tabs: 1, 2 mg	Off-label use; no standardized dosing. Reasonable to start at 1 mg QHS, increasing to effect or intolerance due to sedation or hypotension, to theoretical max 3 mg/day. Probably better in addition to a stimulant than instead of one.
Guanfacine extended-release	INTUNIV ER tab: 1, 2, 3, 4 mg (The IR version Tenex/generic 1, 2 mg tabs has been used off-label as well.)	Start 1 mg QAM; increase 1 mg wkly as needed to label max of 4 mg. However, additional benefit may be seen at doses up to 0.12 mg/kg/day in adolescents. Sedation common. Off-label, it may be more beneficial combined with a stimulant than as a single agent.
Modafinil	PROVIGIL: 100 mg tab, 200 mg scored tab.	Has been used off-label for ADHD at 200-400 mg QAM. Company withdrew FDA application for ADHD.

#### F. Behavioral and psychological interventions.

1. Behavioral interventions have not been demonstrated to significantly reduce the core symptoms of ADHD (i.e., hyperactivity, impulsivity, inattention).
2. However, behavioral therapies can provide coping skills and improve the behavior problems often seen in children with ADHD, and thus are included in the treatment recommendations of many pediatric and psychiatric organizations.
3. Some measures parents can employ include:
  - a. Maintaining a daily schedule.
  - b. Keeping distractions to a minimum.
  - c. Providing specific and logical places for the child to keep his schoolwork, toys, and clothes.
  - d. Setting small, reachable goals.
  - e. Rewarding positive behavior.
  - f. Using charts and checklists to help the child stay “on task.”

- g. Limiting choices.
  - h. Finding activities in which the child can be successful (e.g., hobbies, sports).
  - i. Using calm discipline (e.g., time out, distraction, removing the child from the situation).
4. It should be noted that ADHD symptoms often improve with time regardless of treatment modality.
  5. In adults, comorbid psychological conditions often complicate ADHD, and it is often desirable to avoid stimulant medications in this population. As a result, behavioral and psychological interventions should be strongly considered. Such methods include:
    - a. Marital counseling.
    - b. Self-help groups.
    - c. Evaluation for learning disabilities, followed by appropriate educational accommodations, if indicated.
    - d. Instruction in time management skills.

## II. POLICIES AND PROCEDURES

- A. For children/adolescents new to the practice who have been taking stimulants, who are requesting that USAFM take over the prescribing of these medications, follow these procedures:
  1. Request records documenting the evaluation and diagnosis of ADHD from the previous physician.
  2. At the discretion of the physician, a one month supply of the patient's previous stimulant medication may be prescribed while awaiting these records.
  3. If previous records appear to appropriately document the evaluation, diagnosis, and treatment of ADHD, continue prescribing, following the general policies outlined below.
  4. If previous records are not obtainable, follow the procedures below for initiation of ADHD treatment.
- B. For children/adolescents who are being newly evaluated for the diagnosis of ADHD, follow these procedures:
  1. It is appropriate to discuss the option of further psychiatric or psychological evaluation, and to offer referral for such services to the parent and patient. However, it should be

recognized that such resources are often not readily available in the community, and the treatment of most cases of ADHD is within the scope of practice for most pediatricians and family physicians.

2. Perform an age-appropriate history and physical exam, with particular emphasis to the cardiac exam. There is no routine laboratory work that is recommended or required for the diagnosis of ADHD.
3. Provide ACTeRS ADHD evaluation questionnaires, to be completed by at least one parent and one teacher. (Remove the scoring part of the form and retain it on the chart.) Have the parents schedule a follow-up appointment after these have been completed; if there are any other evaluations that have been completed at school or elsewhere, have the parents bring those to the appointment as well.
4. At the return visit, score the questionnaires, noting the following DSM criteria for ADHD. In practicality, if the questionnaire indicates a high probability of ADHD, and this is consistent with your history and physical, the diagnosis is quite likely. Note that many would recommend specialty referral rather than making the diagnosis before age 6. Also, many authorities ignore the DSM requirement of documenting symptoms or impairment before age 7, either extending that to age 12, or ignoring age all together.

<b>DSM-IV CRITERIA FOR ATTENTION DEFICITY HYPERACTIVITY DISORDER</b>
<b>Presence of either 1 or 2</b>
<b>1. Six (or more) of the following symptoms of inattention have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:</b>
Often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities.
Often has difficulty sustaining attention in tasks or play activities.
Often does not seem to listen when spoken to directly.
Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions).
Often has difficulty organizing tasks and activities.
Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).
Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools).
Is often easily distracted by extraneous stimuli.
Is often forgetful in daily activities.
<b>2. Six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:</b>
<b>Hyperactivity</b>
Often fidgets with hands or feet or squirms in seat.
Often leaves seat in classroom or in other situations in which remaining seated is expected.
Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents, or adults, may be limited to subjective feelings of restlessness).
Often has difficulty playing or engaging in leisure activities quietly.
Is often "on the go" or often acts as if "driven by a motor."
Often talks excessively.
<b>Impulsivity</b>
Often blurts out answers before questions have been completed.
Often has difficulty awaiting turn.
Often interrupts or intrudes on others (e.g., butts into conversations or games).
<b>Additional criteria</b>
Some hyperactive, impulsive, or inattentive symptoms that caused impairment were present before age 7 years.
Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

5. The American Heart Association now advises consideration of a baseline EKG before starting stimulant medications. Given the barriers this could present for treating ADHD, it is common practice to obtain an EKG only in the face of worrisome findings on history and physical. If there are any abnormalities in EKG, heart rate, or blood pressure, stimulant prescribing should be deferred until there has been further evaluation by a pediatric cardiologist.
6. A personal history of previous substance abuse in adolescents is a contraindication to use of stimulants. A history of parental substance abuse would also present great concern for the safety of prescribing these medications. Consider use of the OPIOID RISK TOOL in older adolescents.
7. If ADHD is diagnosed, and no contraindications are identified, discuss the initiation of treatment with stimulant medications. Discuss departmental policies with the patient, and have the patient/parent complete a CONTROLLED SUBSTANCES AGREEMENT, including the appropriate RISKS AND SIDE EFFECTS FORM.

8. Provide a copy of the document **ADVICE FOR PARENTS OF CHILDREN WITH ADHD**.
9. Begin prescribing one of the stimulant agents discussed above at an appropriate starting dose. Provide 30 days of medication, and schedule a follow-up visit in 25-30 days. Ask the parent to bring a note from the teacher who works most frequently with the patient, discussing his/her progress.
10. At follow-up visits, assess blood pressure, heart rate, clinical improvement, and side effects. (For patients in the practice who are already on stimulants, but do not have a baseline EKG, the American Heart Association recommends considering an EKG at the next scheduled visit; see II.B.5 above.) Adjust treatment as necessary, and recheck again in 25-30 days.
11. When medication response appears optimal, inform the parents that prescriptions will be refilled monthly under the terms of the **CONTROLLED SUBSTANCE AGREEMENT**, and plan for a follow-up visit every 3 months.
12. For patients with a contraindication to stimulants, a trial of atomoxetine (Strattera) may be considered.
13. Urine drug screens are not required on a specific schedule, but may be obtained at any time at the discretion of the provider. Note that amphetamines are identified on the standard urine drug screen at the University of South Alabama, while methylphenidate is not. One might consider drug screens if there is a concern of concomitant use of nonprescribed drugs.
14. The following are reasons to consider referral to a specialist (e.g., a psychologist, psychiatrist, neurologist, educational specialist, or developmental-behavioral pediatrician) for further assistance:
  - a. Age under 6 years.
  - b. Lack of response to, or intolerance of, all medications without contraindications.
  - c. Mental retardation.
  - d. Developmental disorder, such as speech or motor delay.
  - e. Learning disability.
  - f. Visual or hearing impairment.
  - g. History of abuse.
  - h. Severe aggression.

- i. Seizure disorder.
- j. Comorbid psychological/emotional problems.
- k. Chronic illness that requires treatment with a medication that interferes with learning.

C. ADHD in adults.

1. The diagnosis and treatment of ADHD in adults is controversial. The DSM criteria are primarily based on children, and the patient is often emotionally invested in the diagnosis. It is usually advisable to plan a consultation visit with one of our psychologists, or offer outside referral to a psychiatrist, before initiation of treatment. Many primary care physicians would consider ADHD in adults outside the scope of their practices.
2. There are a number of commercially available adult ADHD evaluation tools and questionnaires. Examples include the Wender Utah Scale, the Brown Adult ADD/ADHD Scale, and Conner's Adult ADHD Rating Scales (CAARS). However, they have false positive rates of 15-40%, especially in the presence of other psychological conditions, and studies have shown responses are easily falsified by test-takers motivated to demonstrate a diagnosis of ADHD. Consequently, while they may play a role in the evaluation of adults suspected of having ADHD, such screening tools cannot be used as the primary arbiter of the diagnosis.
3. If a patient reports currently using a stimulant medication from another physician, it is left to the doctor's discretion as to whether or not to prescribe one month of this medication while consultation/evaluation is arranged.
4. Concomitant psychiatric conditions are often present in adults who under evaluation for ADHD. It is recommended that these conditions be treated first, before specific treatment for ADHD. Examples of such syndromes include:
  - a. Depression.
  - b. Anxiety disorders.
  - c. Bipolar disorder.
  - d. Substance abuse of any kind. In particular, long term-marijuana or alcohol abusers often have symptoms of inattention and poor concentration. Additionally, it should be noted that the incidence of stimulant abuse is very high in persons with a history of other substance abuse.

- e. Several personality disorders. In particular, antisocial personality disorder, characterized by arrests, repeated failure to fulfill parental or work-related obligations, and an absence of remorse, may be confused with ADHD.

5. Treatment options.

- a. If the decision is made to treat ADHD in an adult, atomoxetine (Strattera) is recommended as the drug of first choice, since it is not a stimulant, and is specifically FDA-approved for ADHD in adulthood. If a patient presents to the practice reporting good results with atomoxetine, this prescription may be continued without seeking consultation. Atomoxetine does not require a CONTROLLED SUBSTANCE AGREEMENT.
- b. The other non-stimulant options discussed above would be reasonable considerations if atomoxetine does not achieve a satisfactory response. While data are limited comparing stimulants to antidepressants, there is some evidence to suggest that they are similarly effective. Combinations of different classes of these drugs may also be used.
- c. Non-pharmacological treatment should also be considered instead of, or in combination with, pharmacological treatment. Given the high incidence of concomitant psychological conditions in adults suspected of having ADHD, behavioral and psychological interventions are often helpful in the motivated individual, and may provide sufficient relief from ADHD-related life impairment.
- d. Stimulants.
  - i) Despite the fact that most of the experience with stimulant use is in the pediatric population, the bulk of the data supports the efficacy of stimulants in adults.
  - ii) While effective, the response to stimulants in adults is often not as good as it is in children; higher doses are also often required.
  - iii) If treatment with stimulants is chosen, the procedures outlined for pediatric prescribing in II.B above should be followed in an age-appropriate fashion. In particular, it is advisable to employ the OPIOID RISK TOOL before prescribing stimulants to adults.
  - iv) If treatment with stimulants is chosen, consideration should be given to lisdexamfetamine (Vyvanse).
    - a) It is a prodrug that requires GI digestion for conversion to the active ingredient dextroamphetamine. As such, there is minimal abuse potential if snorted or injected.

- b) Unlike mixed salts of amphetamine (Adderall/Adderall XR), lisdexamfetamine is a single-enantiomer amphetamine formulation. Some patients respond better to the mixed isomer preparation.
  - c) Experience is currently limited with lisdexamfetamine. It has the same side effect profile as other stimulants, except that adverse effects appear to occur more frequently, leading to a higher discontinuation rate.
  - d) It is the only stimulant specifically approved for adult use.
  - e) It is not available generically, and thus is more expensive than many other alternatives.
6. Children with ADHD moving into adulthood.
- a. ADHD symptoms often improve with time regardless of treatment modality, and the impact on life evolves with age and the circumstances of the patient's day-to-day life. As such, many children will be able to taper, and eventually discontinue, stimulant medications in late adolescence to early adulthood. This option should be discussed with patients, and encouraged.
  - b. If the patient approaching adulthood has shown stable, good response to stimulant medications, and discontinuation is not successful, it is reasonable to continue such medications into adulthood, with ongoing monitoring as described above.
  - c. Sometimes a patient who used stimulants for ADHD in childhood will present as a young adult after a period of time off such medications, requesting their resumption. It is advisable to consider a trial of atomoxetine under these circumstances. However, if response is inadequate, it is not unreasonable to resume the previously used stimulant; alternately, the patient could be referred for specialty consultation.
  - d. While adult ADHD may be viewed as a chronic, life-long condition continuing from early childhood, little is known about the long-term effects of stimulant medications, since few longitudinal studies have followed children receiving stimulants into adulthood.

### III. REFERENCES AND FURTHER READING

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## **CHAPTER 4**

### **FORMS, TABLES, AND PATIENT EDUCATION MATERIALS**

This chapter contains the forms and patient education materials referred to earlier in this handbook. It also includes many of the tables presented in Chapters 1-3, just to have them all together for reference purposes. Many of these are also available as printed materials in the clinic, or online through the USAFM computer system.



## **CONTROLLED SUBSTANCES AGREEMENT**

The CONTROLLED SUBSTANCES AGREEMENT consists of the following components:

1. Controlled Substances Contract
2. Risks and Side Effects of Narcotic Pain Medicines Form
3. Risks and Side Effects of Sedative/Tranquilizer Medications Form
4. Risks and Side Effects of Stimulants (Attention Deficit Medications) Form
5. Pharmacy Selection Form
6. Treatment Plan

The Controlled Substances Contract, as the name implies, is the actual contract that explains our controlled-substance prescribing rules.

Note there are three Risks and Side Effects forms. The physician such select the appropriate form(s), discarding the others.

The Pharmacy Selection Form allows the patient to specify a pharmacy, and allows for changes in the future. The patient again acknowledges that he/she will only use one pharmacy.

The Treatment Plan lists the diagnosis requiring the use of controlled substances, and the medicines used to treat the problem, or to treat any side effects that have arisen.



## CONTROLLED SUBSTANCES CONTRACT

### I. POLICIES AND STATEMENTS

#### A. Purpose

The purpose of this agreement is to protect your access to controlled substances and to protect our ability to prescribe to you. (Examples of controlled substances are narcotic pain medicines, tranquilizers, and stimulants.) Because of the potential for tolerance, dependence, and side effects, we need you to sign an informed consent when use of controlled substance is expected to be ongoing. Also, because these drugs have potential for abuse or diversion, prescribing of such medicines is tightly regulated, and we are strictly accountable for our prescribing policies. Thus, the following policies must be agreed to by you as a condition for our willingness to prescribe controlled substances to you.

#### B. Names

- 1) The terms “you,” “your,” and “patient” refer to the patient being treated, and/or the parent or guardian of a minor being treated.
- 2) The terms “we,” “our,” “us,” “doctor,” “USAFM,” and “the practice” refer to the University of South Alabama Family Medicine clinic and its staff.

#### C. General Rules

- 1) This medication will be prescribed by your primary doctor, Dr. \_\_\_\_\_.  
In the event this doctor is not available at a time when refills are appropriate, another member of this doctor’s work team, as designated by USAFM, will address your refill requests.
- 2) You will not accept a prescription for a controlled substance from any provider outside of USAFM, with the following provisos:
  - a. In the event you need to seek care elsewhere for acute injury, illness, hospitalization, or surgery necessitating the use of controlled substances, you may accept and use such a prescription.
  - b. If you accept controlled substances from another provider as described above, you must contact USAFM during the next business day, informing us of the drug, the dosage, and the amount received. You will then be given further instructions on how to proceed.
- 3) Refill requests are only accepted during office hours; you will not call outside of office hours for medication refills. Your doctor’s treatment plan will determine when you may receive a refill, and whether you will need to be seen for an office visit for the refill. Refill requests will be addressed within three business days; it is your responsibility to monitor your medications, and to request refills in a timely fashion. It is recognized, to allow for office work time, weekends, holidays, or travel, that refills will need to be requested a few days before the refill date, but they may not actually be obtained before then.
- 4) Only one pharmacy will be used. Should the need arise to change pharmacies, our office must be informed. The only exception will be for acute need outside of the local area, as discussed in article I.C.2. above.

- 5) USAFM has permission to discuss all diagnostic and treatment details with the dispensing pharmacist or other providers who provide your health care for purposes of maintaining accountability.
- 6) Medications will not be shared, sold, or used by anyone else.
- 7) Medications will be taken exactly as prescribed. Discussion about changing needs, problems, or new circumstances will take place at scheduled office visits, at which time treatment changes will be considered.
- 8) The purpose of these medications is to safely improve function and quality of life. There is no guarantee that pain, anxiety, or any other specific symptom will or can be completely relieved. If, at any time, it becomes evident that these safety, function, and quality of life goals are not being met, the doctor will change the treatment plan. This could include discontinuation of controlled substances.
- 9) Controlled substances may be hazardous or lethal when used by people other than the intended patient, especially a child. Such drugs are also subject to theft. You are responsible for the safety of your medications; they should not be left where others might see or otherwise have access to them. Lost, stolen, or damaged prescriptions will not be replaced. An exception may be made at the doctor's discretion if you are seen for an office visit with a copy of a completed police report.
- 10) These medicines are not to be mixed with alcohol, any other non-prescribed sedative, or any illegal drug.
- 11) Unannounced urine or blood tests may be requested by your doctor, and your cooperation is required. Evidence of unauthorized drugs, illegal substances, alcohol, or lack of appropriate use of prescribed medications, or attempts to falsify your results, will be considered a violation of this contract.
- 12) Your doctor may refer you to other specialists or health care providers to evaluate reversible causes of your symptoms, or to provide additional relief of your symptoms. Failure to follow through with these referrals will be considered a violation of this contract.
- 13) If there is any question of inappropriate drug use, your doctor may refer you for assessment and treatment for addictive disorders. Failure to follow through with these referrals will be considered a violation of this contract.
- 14) All of your medications, in the original containers, will be brought to each office visit.
- 15) The patient understands that USAFM is under no obligation to prescribe controlled substances to the patient. Failure to adhere to ANY provision of this contract will be grounds for discontinuation of controlled substance prescribing, and may be grounds for dismissing the patient from the USAFM medical practice.

Patient/Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Physician Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## RISKS AND SIDE EFFECTS OF NARCOTIC PAIN MEDICINES

The following are known risks and side effects of narcotic pain medications. This list is not meant to be all-inclusive, but should give the patient an overview of cautions to consider when consenting to treatment with chronic narcotics.

- 1) Nausea and vomiting. This may be mild to severe, though it usually improves after the initial days of usage.
- 2) Constipation. This is very common, and may be quite severe. It is important to take in a lot of fiber and fluids, and follow any other instructions given by the doctor. Notify the doctor if you are not having a bowel movement at least every 4 days.
- 3) Urinary retention. The bladder may not empty well, leading to kidney damage, and perhaps requiring a bladder catheter or hospitalization.
- 4) Sedation and confusion. The patient may suffer from slowed reflexes, difficulty thinking clearly, increased risk of falls, and difficulty staying awake, though these symptoms often improve after the patient gets used to the medicine. The patient should not drive, operate machinery, or engage in dangerous activities during *at least* the first week of treatment or after a change in medication/dosage. Even after this time frame, the patient should exercise caution with such activities, and could possibly be blamed for any accident he/she is involved in while taking these medications.
- 5) Seizures. Convulsions may occur while on these medications.
- 6) Allergic reactions. Any medication may cause an allergic reaction, usually in the first days of usage, but sometimes later. Notify the doctor if rash, swelling, or difficulty breathing develops.
- 7) Itching. Note that itching is relatively common with narcotic medications, and, *without a rash, is not indicative of an allergic reaction*. It often improves after several days of usage.
- 8) Headaches. Some headaches, especially migraines, can become more severe or frequent on narcotics.
- 9) Dependence. After prolonged use, most people will have withdrawal symptoms if they abruptly stop narcotic pain medications. Such symptoms include rapid heart rate, elevated blood pressure, sweating, nausea and vomiting, diarrhea, body aches, abdominal pain, psychosis, and hallucinations. These are very uncomfortable, but rarely life-threatening.
- 10) Tolerance. After prolonged use, some people will require larger amounts of the medication for pain relief. This can lead to an increase in other side effects.
- 11) Addiction. A craving or psychological desire for these medications, above and beyond that needed for pain control, may occur, disrupting home and work life. There is significant potential for abuse of these medications, either by the patient or by persons who obtain them from the patient.
- 12) Depression. Depression often occurs in patients with chronic pain requiring chronic narcotics. Notify the doctor if you start feeling depressed, very sad, hopeless, or suicidal.
- 13) Overdose. Overdose by the patient, or other people who have access to these medications, may be fatal.
- 14) Reactions with other drugs. Do not take alcohol or street drugs such as marijuana, cocaine, speed, or ecstasy. Reactions may be fatal. There may also be reactions or interactions with other prescribed medications; notify the doctor if any other health care provider gives you any new medications.

Patient/Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Physician Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## RISKS AND SIDE EFFECTS OF SEDATIVE/TRANQUILIZER MEDICATIONS

The following are known risks and side effects of sedative/tranquilizer medications. This list is not meant to be all-inclusive, but should give the patient an overview of cautions to consider when consenting to treatment with such medications.

- 1) Nausea, vomiting, and diarrhea. These are generally modest, and may improve after the initial days of usage.
- 2) Constipation. This is generally mild, and is manageable with increased intake of fiber and fluids. Notify the doctor if you are not having a bowel movement at least every 4 days.
- 3) Sedation and confusion. The patient may suffer from slowed reflexes, difficulty thinking clearly, increased risk of falls, fainting, memory problems, and difficulty staying awake, though these symptoms often improve after the patient gets used to the medicine. The patient should not drive, operate machinery, or engage in dangerous activities during *at least* the first week of treatment or after a change in medication/dosage. Even after this time frame, the patient should exercise caution with such activities, and could possibly be blamed for any accident he/she is involved in while taking these medications.
- 4) Agitation and manic behavior. In contrast to sedation, some patients may develop agitated or manic episodes while on these medications.
- 5) Seizures. Convulsions may occur while on these medications.
- 6) Allergic reactions. Any medication may cause an allergic reaction, usually in the first days of usage, but sometimes later. Notify the doctor if rash, swelling, or difficulty breathing develops.
- 7) Headaches. Headaches may occur or worsen while on these medications.
- 8) Dependence. After prolonged use, many people will have withdrawal symptoms if they abruptly stop these medications. Such symptoms include rapid heart rate, irritability, anxiety, agitation, confusion, memory problems, hallucinations, psychosis, seizures, insomnia, tremors, muscle twitching, muscle cramps, stomach cramps, and sweating. At times these can be life-threatening, and it is important that you monitor your supply of medicine so that you do not abruptly run out.
- 9) Addiction. A craving or psychological desire for these medications, above and beyond that needed for symptom control, may occur, disrupting home and work life. There is significant potential for abuse of these medications, either by the patient or by persons who obtain them from the patient.
- 10) Depression. Depression is often present in patients with anxiety, yet it may also be a side effect of sedatives themselves. Notify the doctor if you start feeling depressed, very sad, hopeless, or suicidal.
- 11) Overdose. Overdose by the patient, or other people who have access to these medications, may impair breathing, and lead to coma or death.
- 12) Reactions with other drugs. Do not take alcohol or street drugs such as marijuana, cocaine, speed, or ecstasy. Reactions may be fatal. There may also be reactions or interactions with other prescribed medications; notify the doctor if any other health care provider gives you any new medications.

Patient/Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Physician Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## RISKS AND SIDE EFFECTS OF STIMULANTS (ATTENTION DEFICIT MEDICATIONS)

While with appropriate follow-up most patients can safely use stimulant medications for attention deficit problems, the following are known risks and side effects of these drugs. This list is not meant to be all-inclusive, but should give the patient and parent an overview of cautions to consider when consenting to treatment.

- 1) Heart and circulation problems. These medications can cause rapid heart rate, elevated blood pressure (sometimes severe), heart attack, long-term heart damage, stroke, and sudden death; the more severe consequences are most likely when not used as directed. Close monitoring is necessary, especially when these medications are first started.
- 2) Seizures. Convulsions may occur while on these medications.
- 3) Behavioral changes. These medications may lead to anxiety, agitation, mood swings, aggressive behavior, mania, or frankly psychotic behavior, especially when not used as directed.
- 4) Depression. Depression may occur, especially with misuse and abrupt withdrawal. Notify the doctor if you start feeling depressed, very sad, hopeless, or suicidal.
- 5) Tourette syndrome. A disorder with tics (involuntary movements or vocalizations) may occur, or be aggravated, while on these medications.
- 6) Allergic reactions. Any medication may cause an allergic reaction, usually in the first days of usage, but sometimes later. However, some of these medicines can rarely lead to a particularly severe rash, which can be life-threatening. Notify the doctor if rash, swelling, or difficulty breathing develop.
- 7) Growth suppression/weight loss. Some children on these medications appear to have some slowing in their growth rate, though it is believed that most eventually reach the full height they would have if not on the medication. Weight loss is also sometimes seen.
- 8) Gastrointestinal effects. Nausea, vomiting, diarrhea, constipation, dry mouth, abdominal pain, heartburn, and decreased appetite may be seen on these medications.
- 9) Insomnia. Patients may have trouble sleeping while on these medications.
- 10) Dependence. After prolonged use, some people will have withdrawal symptoms if they abruptly stop these medications. Such symptoms may include most all of the behavioral side effects discussed above; depression can be quite severe. This problem is much more common following misuse/excessive use of such medications. There is significant potential for abuse of these medications, either by the patient or by persons who obtain them from the patient.
- 11) Reactions with other drugs. Do not take alcohol or street drugs such as marijuana, cocaine, speed, or ecstasy. Reactions may be fatal. There may also be reactions or interactions with other prescribed medications; notify the doctor if any other health care provider gives you any new medications.

Patient/Parent/Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Physician Signature: \_\_\_\_\_

Date: \_\_\_\_\_



PHARMACY SELECTION

The patient will only fill prescriptions for controlled substances at the pharmacy listed below. The patient will inform USAFM of any plans to change pharmacy. The patient will not obtain controlled substances from more than one pharmacy at a time. The only exception will be for acute need outside of the local area, as discussed in the CONTROLLED SUBSTANCES CONTRACT.

Pharmacy: \_\_\_\_\_

Address/Phone Number/Branch Number (provide at least one):

\_\_\_\_\_  
\_\_\_\_\_

Patient/Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Physician Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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*CHANGES:*

Pharmacy: \_\_\_\_\_

Address/Phone Number/Branch Number (provide at least one):

\_\_\_\_\_  
\_\_\_\_\_

Patient initials: \_\_\_\_\_ Doctor initials: \_\_\_\_\_ Date: \_\_\_\_\_

-----  
Pharmacy: \_\_\_\_\_

Address/Phone Number/Branch Number (provide at least one):

\_\_\_\_\_  
\_\_\_\_\_

Patient initials: \_\_\_\_\_ Doctor initials: \_\_\_\_\_ Date: \_\_\_\_\_

-----  
Pharmacy: \_\_\_\_\_

Address/Phone Number/Branch Number (provide at least one):

\_\_\_\_\_  
\_\_\_\_\_

Patient Initials: \_\_\_\_\_ Doctor Initials: \_\_\_\_\_ Date: \_\_\_\_\_



TREATMENT PLAN

I. REASON FOR CONTROLLED SUBSTANCES

The following are the diagnoses for which the medications listed below are being prescribed:

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II. MEDICATIONS TO BE USED

The following medications are to be used as directed below. Any changes will be initialed and dated; deleted or changed medications will be crossed out with one line, so that they are still legible. Include adjunctive medications and medications used to address side effects.

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

MEDICATIONS, CONTINUED

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

Drug/Dosage:	Directions:	Start Date:
Patient Initials:	Doctor Initials:	Stop/Change Date:

## **PAIN AND SYMPTOM ASSESSMENT**

This is a simple, one-page pain questionnaire for the patient to fill out at the initial pain management visit. It should also be used at follow-up visits, especially if the patient is having problems. It also gives the patient the opportunity to report other symptoms that are commonly seen with chronic pain, or are side effects of pain medicines.

Numerous other pain assessment forms are readily available on the Internet. Many of these are more detailed than the one included here. While this approach certainly has some merit, a longer form can also be more cumbersome and time-consuming to use, and sometimes they are written at a reading level above that of many patients. Thus a “quick and simple” form has been developed for use here; it should at least identify problems that require further evaluation or treatment adjustment.







## **BECK'S DEPRESSION INVENTORY**

Beck's Depression Inventory is one of the most commonly used screening tools for depression. Depression is very commonly seen in conjunction with chronic pain, yet patients may be reluctant to bring it up. So, aside from the score on the test itself, it serves the purpose of being an icebreaker, helping the patient understand that depression is a legitimate problem that can be treated.

A key for interpreting the test is also included.



## BECK'S DEPRESSION INVENTORY

Patient: \_\_\_\_\_ Date: \_\_\_\_\_

Please check the response that best describes how you feel for each item, and return to your doctor.

1.  (0) I do not feel sad.  
 (1) I feel sad.  
 (2) I am sad all the time and I can't snap out of it.  
 (3) I am so sad and unhappy that I can't stand it.
2.  (0) I am not particularly discouraged about the future.  
 (1) I feel discouraged about the future.  
 (2) I feel I have nothing to look forward to.  
 (3) I feel the future is hopeless and that things cannot improve.
3.  (0) I do not feel like a failure.  
 (1) I feel I have failed more than the average person.  
 (2) As I look back on my life, all I can see is a lot of failures.  
 (3) I feel I am a complete failure as a person.
4.  (0) I get as much satisfaction out of things as I used to.  
 (1) I don't enjoy things the way I used to.  
 (2) I don't get real satisfaction out of anything anymore.  
 (3) I am dissatisfied or bored with everything.
5.  (0) I don't feel particularly guilty.  
 (1) I feel guilty a good part of the time.  
 (2) I feel quite guilty most of the time.  
 (3) I feel guilty all of the time.
6.  (0) I don't feel I am being punished.  
 (1) I feel I may be punished.  
 (2) I expect to be punished.  
 (3) I feel I am being punished.
7.  (0) I don't feel disappointed in myself.  
 (1) I am disappointed in myself.  
 (2) I am disgusted with myself.  
 (3) I hate myself.
8.  (0) I don't feel I am any worse than anybody else.  
 (1) I am critical of myself for my weaknesses or mistakes.  
 (2) I blame myself all the time for my faults.  
 (3) I blame myself for everything bad that happens.
9.  (0) I don't have any thoughts of killing myself.  
 (1) I have thoughts of killing myself, but I would not carry them out.  
 (2) I would like to kill myself.  
 (3) I would kill myself if I had the chance.
10.  (0) I don't cry any more than usual.  
 (1) I cry more now than I used to.  
 (2) I cry all the time now.  
 (3) I used to be able to cry, but now I can't cry even though I want to.

11.  (0) I am no more irritated by things than I ever was.  
 (1) I am slightly more irritated now than usual.  
 (2) I am quite annoyed or irritated a good deal of the time.  
 (3) I feel irritated all the time.
12.  (0) I have not lost interest in other people.  
 (1) I am less interested in other people than I used to be.  
 (2) I have lost most of my interest in other people.  
 (3) I have lost all of my interest in other people.
13.  (0) I make decisions about as well as I ever could.  
 (1) I put off making decisions more than I used to.  
 (2) I have greater difficulty in making decisions more than I used to.  
 (3) I can't make decisions at all anymore.
14.  (0) I don't feel that I look any worse than I used to.  
 (1) I am worried that I am looking old or unattractive.  
 (2) I feel that there are permanent changes in my appearance that make me look unattractive.  
 (3) I believe that I look ugly.
15.  (0) I can work about as well as before.  
 (1) It takes an extra effort to get started at doing something.  
 (2) I have to push myself very hard to do anything.  
 (3) I can't do any work at all.
16.  (0) I can sleep as well as usual.  
 (1) I don't sleep as well as I used to.  
 (2) I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.  
 (3) I wake up several hours earlier than I used to and cannot get back to sleep.
17.  (0) I don't get more tired than usual.  
 (1) I get tired more easily than I used to.  
 (2) I get tired from doing almost anything.  
 (3) I am too tired to do anything.
18.  (0) My appetite is no worse than usual.  
 (1) My appetite is not as good as it used to be.  
 (2) My appetite is much worse now.  
 (3) I have no appetite at all anymore.
19.  (0) I haven't lost much weight, if any, lately.  
 (1) I have lost more than five pounds.  
 (2) I have lost more than ten pounds.  
 (3) I have lost more than fifteen pounds.
20.  (0) I am no more worried about my health than usual.  
 (1) I am worried about physical problems such as aches and pains, upset stomach, or constipation.  
 (2) I am very worried about physical problems and it's hard to think of much else.  
 (3) I am so worried about my physical problems that I cannot think about anything else.
21.  (0) I have not noticed any recent change in my interest in sex.  
 (1) I am less interested in sex than I used to be.  
 (2) I have almost no interest in sex.  
 (3) I have lost interest in sex completely.

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*For physician's use:*

Total: \_\_\_\_\_ Interpretation: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## BECK'S DEPRESSION INVENTORY INTERPRETATION

### Levels of Depression:

0-10	These ups and downs are considered normal
11-16	Mild mood disturbance
17-20	Borderline clinical depression
21-30	Moderate depression
31-40	Severe depression
>40	Extreme depression

A persistent score of 17 or above indicates that professional treatment may be needed.



## **OPIOID RISK TOOL**

This is Lynn Webster's commonly referenced questionnaire to help quantify a patient's risk of abusing narcotics; this risk can also be extrapolated to other controlled substances as well. It is very quick for the patient to complete, and can be useful in preempting prescribing problems before they start.

A key for interpreting the test is also included.



OPIOID RISK TOOL

Patient: \_\_\_\_\_ Date: \_\_\_\_\_

		Female	Male
<b>1. Mark box if you have a history of abuse of the following in your family:</b>			
Alcohol	[ ]	1	3
Illegal drugs	[ ]	2	3
Prescription drugs	[ ]	4	4
<b>2. Mark box if you personally have a history of abuse of the following:</b>			
Alcohol	[ ]	3	3
Illegal drugs	[ ]	4	4
Prescription drugs	[ ]	5	5
<b>3. Age—Mark box if you're age 16–45:</b>	[ ]	1	1
<b>4. Mark box if you were sexual abused before age 19:</b>	[ ]	3	0
<b>5. Mark box if you've been diagnosed with any of the following conditions:</b>			
Attention deficit disorder, bipolar disorder, obsessive-compulsive disorder, schizophrenia	[ ]	2	2
Depression	[ ]	1	1

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*For physician's use:*

Total: \_\_\_\_\_ Interpretation: \_\_\_\_\_

\_\_\_\_\_  
 Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## OPIOID RISK TOOL INTERPRETATION

<b>Score</b>	<b>Risk</b>	<b>Notes</b>
0-3	Low	Unlikely to abuse.
4-7	Moderate	Risk of abuse about 50/50.
≥8	High	Likely to abuse.

A high risk of abuse does *not* mean that appropriate treatment of pain is contraindicated.

However, it *does* mean that increased vigilance regarding inappropriate drug use is warranted.

Webster, Lynn R. & Webster, Rebecca M.  
Predicting Aberrant Behaviors in Opioid-Treated Patients: Preliminary Validation of the Opioid Risk Tool. *Pain Medicine* 6 (6), 432-442.



## NARCOTIC SUMMARY TABLE

Drug	Common Doses	Notes
<i>Immediate-Release</i>	Start low in	opiate-naïve patients.
Codeine	15-60 mg PO Q 4-6 hrs PRN.	Acetaminophen is often the limiting dosing factor. Low potency. Relatively high incidence of itching and nausea. Up to 10% of Caucasians lack the enzyme to activate.
Fentanyl IR (ABSTRAL, ACTIQ, FENTORA, LAZANDA, ONSOLIS, SUBSYS, GENERIC)	Oral or nasal transmucosal: Start with lowest dose, titrating up as needed. 50-100 mcg IV/IM Q 1-2 hrs PRN.	Multiple transmucosal forms (SL/buccal strip, tab, lozenge, oral spray, nasal spray). Even generics are expensive. Various formulations are not directly interchangeable. Do not cut/chew/crush/swallow. High equianalgesic potency; do not use in opiate-naïve patients.
Hydrocodone (LORTAB, VICODIN)	5-10 mg PO Q 4 hrs PRN.	A good first choice for breakthrough pain, if the acetaminophen or ibuprofen components are not limiting.
Hydromorphone (DILAUDID, GENERIC)	2-8 mg PO Q 3-4 hrs PRN. 3 mg rectally Q 6-8 hrs PRN. 1-4 mg SC/IV/IM Q 4-6 hrs PRN.	Sometimes effective when analgesia from other narcotics has waned. Acceptable with renal disease, but reduce dose 50-75% in moderate-severe CRF. High equianalgesic potency.
Levorphanol (LEVO-DROMORAN, GENERIC)	2-4 mg PO Q 6-8 hrs PRN. Parenteral form available in some countries.	Very long half-life of 16-18 hrs, despite the need for dosing Q 6-8 hrs. Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables. Risk of accumulation; wait 72 hrs between dosage increases.
Methadone	2.5-10 mg PO Q 8-12 hrs PRN. 2.5-5 mg SC/IV Q 8-12 hrs PRN.	Very long, variable half-life; better used as maintenance drug rather than a breakthrough med. See discussion under ER meds below.
Morphine IR (GENERIC)	10-30 mg PO/SL Q 3-4 hrs PRN. 10-20 mg Q 4 hr rectally PRN. 2.5-10 mg SC/IV Q 2-6 hrs PRN.	Be careful not to confuse with the extended-release formulation when prescribing. Caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.
Oxycodone IR (ROXICODONE, GENERIC) Oxycodone IR tamper-resistant (Oxecta)	5-30 mg PO Q 4 hrs PRN.	A good choice for breakthrough pain, particularly when there is a need to avoid acetaminophen. Be careful not to confuse with the extended-release formulation when prescribing.
Oxycodone IR/acetaminophen or NSAID or ASA combinations (TYLOX, PERCOJET, others, GENERIC)	5-30 mg hydrocodone PO Q 4 hrs PRN.	Acetaminophen/NSAID often becomes the dose-limiting factor. Be careful not to confuse with extended-release formulations when prescribing.
Oxymorphone IR (OPANA, GENERIC)	10-20 mg PO Q 4-6 hrs PRN. 1-1.5 mg SC/IM Q 4-6 hrs PRN. 0.5 mg IV Q 4-6 hrs PRN.	Expensive, even as generic—though may be Alabama Medicaid-covered. Give PO doses 1 hr before or 2 hours after meals. High equianalgesic potency.
Tapentadol (NUCYNTA)	50-100 mg PO Q 4-6 hrs PRN.	Weak mu agonist/norepinephrine reuptake inhibitor. Weaker than morphine, perhaps fewer GI effects, same CNS effects.
Tramadol (ULTRAM)	50-100 mg PO QID PRN.	Central opioid agonist/SNRI. A good initial choice for mild pain. Lowers seizure threshold.

<i>Extended-Release</i>	Base initial dosing on equianalgesic conversion table.	
Fentanyl Transdermal (DURAGESIC, GENERIC)	Individualize dosage, based on equianalgesic conversion table. Replace patch Q 72 hrs.	Titrate slowly. Analgesia reaches peak 12 hrs after application; may persist 12-24 hrs after removal. High equianalgesic potency; do not use in opiate-naïve patients.
Hydromorphone ER (EXALGO)	8-64 mg PO Q 24 hrs, based on equianalgesic conversion table.	Very expensive. Sometimes effective when analgesia from other narcotics has waned. Acceptable with renal disease, but reduce dose 50-75% in moderate-severe CRF. High equianalgesic potency; do not use in opiate-naïve patients.
Levorphanol (LEVO-DROMORAN, GENERIC ER)	2-4 mg PO Q 6-8 hrs PRN. Parenteral form available in some countries.	Very long half-life of 16-18 hrs, despite the need for dosing Q 6-8 hrs. Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables. Risk of accumulation; wait 72 hrs between dosage increases. Q 6-8 hr dosing makes it most commonly used as a breakthrough med, though may be useful as maintenance drug in some patients.
Methadone	2.5-10 mg PO Q 8-12 hrs. 2.5-5 mg SC/IV Q 8-12 hrs.	Very long, variable half-life. Titrate very slowly to effect; it may take 3-5 days to achieve full analgesic effect. Peak sedation and respiratory depressant effects may occur later than peak pain effect; always write “hold for sedation.” Incomplete cross-tolerance with other opiates; use a very conservative interpretation of equianalgesic tables. Relatively safe with renal disease.
Morphine ER Twice-Daily (MS CONTIN, GENERIC ER)	15-30 mg PO Q 12 hrs.	There are once-daily and sprinkle versions, but they are branded, more expensive. Caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.
Morphine ER Once-Daily (KADIAN, AVINZA)	See brands for cap sizes/dosing. Can try once-daily dosing, though still may need twice daily. Unlike regular morphine, there are brand-specific maximal doses. May open cap & sprinkle, but do not crush/chew/dissolve.	Combination of immediate & delayed-release. Very expensive. Caution in severe renal failure; accumulation of metabolites can cause agitation, delirium.
Morphine ER/Naltrexone tamper-resistant (EMBEDA)	Individualize based on equianalgesic conversion table. Q 24 hrs, to Q 12 hrs if necessary. May open cap & sprinkle, but do not crush/chew/dissolve.	Naltrexone passes through gut unabsorbed if taken correctly; if abuse attempted by crushing/dissolving, it at least partially blocks euphoria from morphine. Expensive.
Oxycodone ER (OXYCONTIN)	10-80 mg PO Q 12 hrs.	A commonly used, first-choice maintenance medicine.
Oxymorphone ER (OPANA ER, GENERIC ER)	5-40 mg PO Q 12 hrs.	Expensive, even as generic. Give PO doses 1 hr before or 2 hours after meals. High equianalgesic potency.
Tapentadol ER (NUCYNTA ER)	Start at 50 mg PO Q 12 hrs; may increase by 50 mg every 3 days, up to 500 mg/day. Do not crush/chew/dissolve.	Weak mu agonist/norepinephrine reuptake inhibitor. Weaker than morphine, perhaps fewer GI effects, same CNS effects.

Tramadol ER (ULTRAM ER, GENERIC ER)	100-300 mg/day.	Expensive, even as generic. Low potency, so probably not a practical maintenance choice in most chronic pain settings.
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**EQUIANALGESIC NARCOTIC CONVERSION TABLE**

<b>Medication</b>	<b>Equianalgesic Doses</b>	
	<b>Parenteral</b>	<b>Oral</b>
Morphine	10 mg	30 mg
Codeine	120 mg	200 mg
Fentanyl (DURAGESIC)	0.1 mg	individualize
Hydrocodone (LORTAB)	N/A	30 mg
Hydromorphone (DILAUDID)	1.5 mg	7.5 mg
Levorphanol (LEVO-DROMORAN)	2 mg (single dose; reduce to 1 mg for chronic dosing)	4 mg (single dose; reduce to 1 mg for chronic dosing)
Methadone	5 mg	10 mg
Oxycodone (TYLOX, OXYCONTIN)	N/A	20 mg
Oxymorphone (OPANA)	N/A	10 mg
Tapentadol (NUCYNTA)	N/A	Not formally established; clinical trials suggest 100 mg
Fentanyl (DURAGESIC) Patch	24 Hour Oral MS Dose = Initial Patch Dose	
	45 mg	12 mcg/hr
	90 mg	25 mcg/hr
	180 mg	50 mcg/hr
	360 mg	100 mcg/hr



## ADJUNCTIVE PAIN MEDICATION SUMMARY TABLE

(Partially adapted from Maizels, Morris, and Bill McCarberg; Antidepressants and Antiepileptic Drugs for Chronic Non-Cancer Pain; Am Fam Physician 2005;71:483-90.)

DRUG	DOSAGE	SIDE EFFECTS, CAUTIONS, & NOTES
<b>Antidepressants</b>		
<i>Tricyclics</i>		SE: Dry mouth, constipation, urinary retention, sedation, weight gain, possibility of at least initially increased suicidal ideation. CI: Cardiac conduction abnormalities, recent cardiac events, narrow-angle glaucoma. Notes: Good evidence of efficacy in chronic pain; most all generic.
Amitriptyline (ELAVIL) Imipramine (TOFRANIL)	10-25 mg QHS; increase by 10-25 mg every 3 wks to effect or 150 mg.	Notes: Tertiary amines have greater anticholinergic effects—avoid use in elderly.
Desipramine (NORPRAMIN) Nortriptyline (PAMELOR)	25 mg QHS; increase by 25 mg every 3 wks to effect or 150 mg.	Notes: Secondary amines have fewer anticholinergic effects.
<i>Selective Serotonin Reuptake Inhibitors</i>		SE: Nausea, constipation, sedation or agitation, serotonin syndrome, weight gain, sexual dysfunction, decreased libido, insomnia, possibility of at least initially increased suicidal ideation. Notes: Efficacy in chronic pain is relatively poor; several branded & generic.
<i>Serotonin &amp; Norepinephrine Reuptake Inhibitors</i>		SE: Nausea, constipation, sedation or agitation, serotonin syndrome, weight gain, sexual dysfunction, decreased libido, insomnia, possibility of at least initially increased suicidal ideation. Notes: Good evidence of efficacy in chronic pain.
Duloxetine (CYMBALTA)	20-60 mg QD; for pain consider 60 mg BID.	
Milnacipran (SAVELLA)	50 mg BID; for pain consider 12.5 mg QD x1 day, then 12.5 mg BID x2 days, then 25 mg BID x4 days, then 50 mg BID; Max: 200 mg/day.	
Venlafaxine (EFFEXOR)	Start at 37.5 mg QD; increase to 75 mg/150 mg/225 mg/max 300 mg every 3 wks.	Notes: Only serotonergic effects below 150 mg; generic.

<i>Novel Antidepressants</i>		
Bupropion (WELLBUTRIN)	Start at 150 mg XL QAM; increase to 300 mg in a wk if necessary.	SE: Agitation or sedation, insomnia, weight loss, lowering of seizure threshold, possibility of at least initially increased suicidal ideation. Notes: Evidence of efficacy in chronic pain is very limited; the SR generic is cheaper than the XL generic, but it has to be dosed BID.
<b>Anticonvulsants</b>		
<i>First-Generation Agents</i>		Notes: Good evidence of efficacy in chronic pain; many generics.
Carbamazepine (TEGRETOL, CARBATROL)	Start at 100 mg BID; titrate to 1200 mg/day divided BID-QID.	SE: Dizziness, sedation, rarely aplastic anemia & other severe hypersensitivity reactions. Notes: There are branded ER formulations.
Oxcarbazepine (TRILEPTAL, GENERIC)	Start at 300 mg BID; titrate 600 mg/day weekly up to 1200 mg BID.	SE: Same as carbamazepine, though usually less severe.
Phenytoin (DILANTIN)	Start at 100 mg QHS; titrate every 1-3 wks, to 500 mg QHS max.	SE: Dizziness, sedation, ataxia, confusion, nausea, gingival hypertrophy, rarely blood dyscrasias, hepatotoxicity, & other severe hypersensitivity reactions. Notes: There are branded ER formulations.
Valproate (DEPAKENE), Divalproex (DEPAKOTE)	Start at 250 mg BID, titrate rapidly to lowest effective dose, typically as high as 500 mg TID.	SE: Dizziness, sedation, ataxia, confusion, nausea, rarely blood dyscrasias, hepatotoxicity, pancreatitis, & other severe hypersensitivity reactions. Notes: There are generic versions of valproate.
<i>Second-Generation Agents</i>		Notes: Good evidence of efficacy in chronic pain.
Gabapentin (NEURONTIN)	Start at 300 mg QD; titrate every few days to max 3600 mg/day divided TID.	SE: Dizziness, sedation, ataxia, fatigue, nausea, weight gain. Notes: Maximum efficacy may be seen several wks after initiation; generic.
Lamotrigine (LAMICTAL)	Start at 50 mg QD; titrate every 2 wks to max 400 mg/day divided QD-BID.	SE: Dizziness, nausea, constipation, rarely serious toxic rashes. Notes: Scheduled, but low risk of abuse; generic.
Pregabalin (LYRICA)	Start at 75 mg BID; titrate every few days to max 300 mg/day divided BID-TID.	SE: Dizziness, sedation, ataxia, fatigue, nausea, weight gain. Notes: Scheduled, but low risk of abuse.
<b>Corticosteroids</b>		
Dexamethasone, several others	2-20 mg or more QD.	SE: Proximal myopathy, candidiasis, bone loss, and other toxicities are possible, but are seldom a problem in the setting of terminal disease. Observe for steroid-induced psychosis. Notes: Dexamethasone is preferred, due to its long half-life and minimal mineralocorticoid effect.

<b>Nonsteroidal Anti-inflammatory Drugs</b>		
Many	Various.	SE: Gastrointestinal, hepatic, and renal toxicities. Notes: NSAIDs can provide analgesic effects additive to other agents, but their toxicities may preclude use in many patients.
<b>Miscellaneous</b>		
Caffeine	65-200 mg per opiate dose.	May increase the analgesic effect of acetaminophen, aspirin, and NSAIDs.
Hydroxyzine	25-50 mg parenterally or 50-100 mg PO per opiate dose.	May add to the analgesic effect of opiates while also relieving nausea.
Topical analgesics (lidocaine, capsaicin, diclofenac, others)	Various.	Helpful for neuropathic and localized orthopedic pain.



SELECTED ORAL BENZODIAZEPINES AND  
NON-BENZODIAZEPINE BENZODIAZEPINES IN THE U.S.

(With approximate equivalencies to diazepam 10 mg)

	<b>Half-life (hours) [active metabolite]</b>	<b>Equivalent dosages (mg)</b>	<b>Primary Market Aim</b>
<b>Benzodiazepines</b>			
Alprazolam (Xanax)	6-12	0.5	anxiolytic
Chlordiazepoxide (Librium)	5-30 [36-200]	25	anxiolytic
Clonazepam (Klonopin)	18-50	0.5	anxiolytic, anticonvulsant
Clorazepate (Tranxene)	[36-200]	15	anxiolytic
Diazepam (Valium)	20-100 [36-200]	10	anxiolytic
Estazolam (ProSom)	10-24	1-2	hypnotic
Flurazepam (Dalmane)	[40-250]	15-30	hypnotic
Lorazepam (Ativan)	10-20	1	anxiolytic
Oxazepam (Serax)	4-15	20	anxiolytic
Temazepam (Restoril)	8-22	20	hypnotic
Triazolam (Halcion)	2	0.5	hypnotic
<b>Non-benzodiazepine benzodiazepines</b>			
Zaleplon (Sonata)	2	20	hypnotic
Zolpidem (Ambien)	2	20	hypnotic
Eszopiclone (Lunesta)	6-9	3	hypnotic

Adapted from Ashton, C. Heather; Benzodiazepines: How They Work And How To Withdraw.



PHARMACOLOGIC AGENTS FOR ADHD

<b>Stimulant Medications - Immediate Release</b>			
<b>Active Ingredient</b>	<b>Drug Name</b>	<b>Dosing</b>	<b>Duration of Behavioral Effects</b>
Mixed salts of Amphetamine (Dextroamphetamine/Levoamphetamine)	ADDERALL/GENERIC tab (scored): 5, 7.5, 10, 12.5, 15, 20, 30 mg.	Start at 5 mg 1-2 times per day; increase by 5 mg weekly until control achieved. Max rec'd daily dose: 40 mg. Do not use in patients with cardiac disease.	4-6 hrs depending on dose.
Dextroamphetamine	PROCENTRA: 5 mg/tsp liq. GENERIC tabs (scored): 5, 10 mg.; 5 mg/tsp liq may be available.	Start at 5 mg 1-2 times per day; increase by 5 mg weekly until control achieved. Max rec'd daily dose: 40 mg.	4-6 hrs.
Methylphenidate	METHYLIN: 5 mg tab; 10 & 20 mg scored tabs; 2.5, 5, & 10 mg chewable tabs; 5 & 10 mg/tsp liq. RITALIN: 5 mg tab; 10 & 20 mg scored tabs. GENERIC: Similar tabs/liq.	Start at 5 mg 1-2 times per day; increase by 5 mg weekly until control is achieved. May need a third, smaller dose in the afternoon. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	3-5 hrs.
Dexmethylphenidate	FOCALIN tab: 2.5, 5, 10 mg.	Start at 2.5 mg 1-2 times per day; increase by 5 mg weekly until control is achieved. Max rec'd daily dose: 20 mg, though 30 mg may actually be needed.	5-6 hrs.
<b>Stimulant Medications - Sustained Release</b>			
<b>Active Ingredient</b>	<b>Drug Name</b>	<b>Dosing</b>	<b>Duration of Behavioral Effects</b>
Mixed salts of amphetamine (Dextroamphetamine/Levoamphetamine)	<i>Bimodal Release</i> ADDERALL XR cap (can be sprinkled): 5, 10, 15, 20, 25, 30 mg.	Start at 5-10 mg in AM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 40 mg. Do not use in patients with cardiac disease.	8-10 hrs.
Dextroamphetamine	DEXEDRINE SPANSULE/GENERIC caps (can be sprinkled): 5, 10, 15 mg.	Start at 5 mg in AM; increase by 5 mg weekly until control achieved. Max rec'd daily dose: 45 mg.	6-8 hrs.
Lisdexamfetamine	VYVANSE cap (can be opened & dissolved in water): 20, 30, 40, 50, 60, 70 mg.	Typically start at 30 mg QAM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 70 mg. No euphoric effect IV/nasally; should have less abuse potential.	Peak 1-4 hrs, duration 10-12 hrs.
Methylphenidate intermediate-acting	RITALIN SR tab: 20 mg. GENERIC SR tab: 20 mg.	Start at 20 mg in AM; increase by 20 mg weekly until control achieved. May need a 2nd dose or a regular methylphenidate dose in afternoon. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	4-8 hrs.

	METADATE/METHYLIN ER tab: 10, 20 mg.	Start at 10 mg in AM; increase by 10 mg weekly until control is achieved. May need a 2nd dose or a regular methylphenidate dose in afternoon. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	4–8 hrs.
Methylphenidate long-acting	<i>Bimodal Osmotic Release</i> CONCERTA cap (noncrushable): 18, 27, 36, 54 mg.	Start at 18 mg in AM; increase by 18 mg weekly until control achieved. Max rec'd daily dose: 72 mg.	8–12 hrs.
	<i>Bimodal Release</i> METADATE CD ER cap (can be sprinkled): 10, 20, 30, 40, 50, 60 mg. RITALIN LA cap (can be sprinkled): 10, 20, 30, 40 mg.	Start at 10 mg in AM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 60 mg; some adults/older children may need 80 mg/day.	8-12 hrs.
	<i>Liquid</i> QUILLIVANT XR: 5 MG/ML	Start at 20 mg PO in AM; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 60 mg.	8-12 hrs.
	<i>Patch</i> DAYTRANA: 10, 15, 20, 30 mg patches.	Start at 10 mg; increase by 10 mg weekly until control achieved. Max rec'd daily dose: 30 mg. Wear 9 hrs., remove for 15 hrs. May have more anorexia, insomnia, tics; can remove earlier to help sleep.	10-12 hrs.
Dexmethylphenidate	<i>Bimodal Release</i> FOCALIN XR ER cap (can be sprinkled): 5, 10, 15, 20, 30, 40 mg.	Start at 5 mg in AM; if changing from methylphenidate, start at 1/2 that dose. Increase by 5 mg weekly until control is achieved. Max rec'd daily dose: 30 mg peds, 40 mg adults.	12 hrs.

### Stimulant Contraindications and Side Effects

Active Ingredient	Contraindications ( <i>Stimulants can be used in children with epilepsy.</i> )
Mixed salts of amphetamine	MAO inhibitors within 14 days, glaucoma, cardiovascular disease, hyperthyroidism, moderate to severe hypertension.
Dextroamphetamine	MAO inhibitors within 14 days, glaucoma.
Methylphenidate	MAO inhibitors within 14 days, glaucoma, preexisting severe gastrointestinal narrowing. Caution should be used when prescribing concomitantly with anticoagulants, anticonvulsants, and tricyclic antidepressants.
<b>Common Side Effects:</b> Decreased appetite, sleep problems, transient headache, transient stomachache, behavioral rebound.	
<b>Infrequent Side Effects:</b> Weight loss, increased heart rate, increased blood pressure, dizziness, growth suppression, hallucinations/mania, exacerbation of tics and Tourette syndrome (rare).	
<b>Possible Strategies for Common Side Effects:</b> (In general, if one stimulant is not working or produces too many adverse side effects, try another stimulant before using a different class of medications.) Dose after meals • Try sustained-release stimulant • Decrease dose • Frequent snacks • Try drug holidays • Add reduced dose in late afternoon • Consider coexisting conditions, especially depression • Restrict or eliminate caffeine • Stable bedtime routine • Consider small bedtime medication dose • Consider referral to mental health specialist.	

<b>Non Stimulant Medications</b>		
<b>Active Ingredient</b>	<b>Drug Name</b>	<b>Dosing/Notes</b>
Atomoxetine HCL	STRATTERA cap: 10, 18, 25, 40, 60, 80, 100 mg.	Start as a single daily dose, based on weight, 0.5 mg/kg/day for the first week, then increase up to a max 1.4 mg/kg/day, all given in 1 daily dose. May cause initial somnolence/nausea, usually relieved by slower titration or splitting to BID. SNRI, so titrate slowly if using other SNRIs. No MAO inhibitors within 14 days
Clonidine immediate-release	CATAPRES/GENERIC: 0.1, 0.2, 0.3 mg scored tabs.	Off-label use; no standardized dosing. Reasonable to start at very low BID dose, increasing to effect or intolerance due to sedation or hypotension, to theoretical max 2.5 mg/day. Probably better in addition to a stimulant than instead of one.
Clonidine extended-release	KAPVAY ER tabs: 0.1, 0.2 mg	Start 0.1 mg QHS, increasing to effect or intolerance due to sedation or hypotension, to max 0.4 mg/day. Probably better in addition to a stimulant than instead of one.
Guanfacine immediate-release	TENEX/GENERIC tabs: 1, 2 mg	Off-label use; no standardized dosing. Reasonable to start at 1 mg QHS, increasing to effect or intolerance due to sedation or hypotension, to theoretical max 3 mg/day. Probably better in addition to a stimulant than instead of one.
Guanfacine extended-release	INTUNIV ER tab: 1, 2, 3, 4 mg (The IR version Tenex/generic 1, 2 mg tabs has been used off-label as well.)	Start 1 mg QAM; increase 1 mg wkly as needed to label max of 4 mg. However, additional benefit may be seen at doses up to 0.12 mg/kg/day in adolescents. Sedation common. Off-label, it may be more beneficial combined with a stimulant than as a single agent.
Modafinil	PROVIGIL: 100 mg tab, 200 mg scored tab.	Has been used off-label for ADHD at 200-400 mg QAM. Company withdrew FDA application for ADHD.

Adapted from the National Initiative for Children's Healthcare Quality ADHD Toolkit and Treatment Guidelines from The Medical Letter; updated as newer agents released.



## **ADHD DIAGNOSTIC TOOLS**

The DSM-IV criteria for Attention Deficit/Hyperactivity Disorder are repeated below.

The ADHD chapter refers to the ACTeRS questionnaire, which is a useful tool to help the physician support the diagnosis of ADHD in children. This is a copyrighted form, and is not reproduced here; copies are available in our clinic.

The text also discusses questionnaires for diagnosing ADHD in adults. The three most commonly used tools are also copyrighted, and thus they are also not presented here. Given their limitations, as reviewed earlier, we do not use these tools in our clinic.



## DSM-IV CRITERIA FOR ATTENTION DEFICIT HYPERACTIVITY DISORDER

<b>Presence of either 1 or 2</b>
<b>1. Six (or more) of the following symptoms of inattention have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:</b>
Often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities.
Often has difficulty sustaining attention in tasks or play activities.
Often does not seem to listen when spoken to directly.
Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions).
Often has difficulty organizing tasks and activities.
Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).
Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools).
Is often easily distracted by extraneous stimuli.
Is often forgetful in daily activities.
<b>2. Six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level:</b>
<b>Hyperactivity</b>
Often fidgets with hands or feet or squirms in seat.
Often leaves seat in classroom or in other situations in which remaining seated is expected.
Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents, or adults, may be limited to subjective feelings of restlessness).
Often has difficulty playing or engaging in leisure activities quietly.
Is often "on the go" or often acts as if "driven by a motor."
Often talks excessively.
<b>Impulsivity</b>
Often blurts out answers before questions have been completed.
Often has difficulty awaiting turn.
Often interrupts or intrudes on others (e.g., butts into conversations or games).
<b>Additional criteria</b>
Some hyperactive, impulsive, or inattentive symptoms that caused impairment were present before age 7 years.
Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.



## **SLEEP HYGIENE PATIENT HANDOUT**

This is a patient education handout that can be used to explain good sleeping habits. It was given the title “Tips For A Better Night’s Sleep” to make it more accessible for our patients, realizing that “sleep hygiene” is probably not a commonly-used term for the general public.



## TIPS FOR A BETTER NIGHT'S SLEEP

Almost everyone has trouble sleeping from time to time, though for some trouble sleeping can become an almost nightly affair. There are several things you can do, and behaviors you can change, to improve the quantity and quality of your sleep. These measures are often referred to as “sleep hygiene.” While results may not be immediate, if practiced daily these measures will allow most people to get a good night’s sleep, without the drawbacks of sleeping medicines.

1. Sleep only as much as needed to feel rested.
2. Keep a regular sleep schedule, both on work and non-work days; set an alarm clock to wake up at a fixed time each morning, including weekends.
3. Avoid forcing sleep; go to bed only when sleepy.
4. Get out of bed if unable to fall asleep within 10-15 minutes, and go to another room. Return to bed only when sleepy. Repeat this step as many times as necessary throughout the night.
5. Do not go to bed hungry, but do not eat a large meal within 2-3 hours of bedtime.
6. Deal with, and “set aside,” worries before getting into bed.
7. Do not watch television, read, or eat in bed. Use bed only for sleep and sex.
8. Naps are generally detrimental to evening sleep. For someone who has established brief naps as a long-time practice, and who feels more refreshed and functional after a brief nap, it may be advisable to continue them, though it should be recognized that this will reduce total evening sleep time.
9. Quit smoking.
10. Avoid caffeinated beverages after lunch.
11. Avoid alcohol within 3-4 hours of bedtime.
12. Exercise regularly, preferably a least 20 minutes per day, but not within 3-4 hours of bedtime.



## **ADHD PARENTAL ADVICE FORM**

This is a patient education handout that covers many problems parents of children with ADHD see on a daily basis. It is adapted from the National Initiative for Children's Healthcare Quality ADHD Toolkit.



## Advice For Parents of Children With ADHD: Solutions to Common Problems

### General tips.

1. Rules should be clear and brief. Your child should know exactly what you expect from him or her.
2. Give your child chores. This will give him or her a sense of responsibility and boost self-esteem.
3. Short lists of tasks are excellent to help a child remember.
4. Routines are extremely important for children with ADHD. Set up regular times for meals, homework, TV, getting up, and going to bed. Follow through on the schedule.
5. Identify what your child is good at doing (like art, math, computer skills) and build on it.
6. Tell your child that you love and support him or her unconditionally.
7. Catch your child being good and give immediate positive feedback.

### It is very hard to get my child ready for school in the morning.

- Create a consistent and predictable schedule for rising and getting ready in the morning.
- Set up a routine so that your child can predict the order of events. Put this routine in writing or in pictures on a poster for your child. Schedule example: Alarm goes off → Brush teeth → Wash face → Get dressed → Eat breakfast → Take medication → Get on school bus.
- Reward and praise your child. This will motivate your child to succeed. Even if your child does not succeed in all parts of the “morning routine,” use praise to reward your child when he or she is successful. Progress is often made in a series of small steps.
- If your child is on medication, try waking your child up 30 to 45 minutes before the usual wake time to give him or her the medication. Then allow your child to “rest” in bed for the next 30 minutes. This rest period will allow the medication to begin working and your child will be better able to participate in the morning routine.

### My child is very irritable in the late afternoon/early evening. (Common side effect of stimulant medications.)

- The late afternoon and evening is often a very stressful time for all children in all families because parents and children have had to “hold it all together” at work and at school.
- If your child is on medication, your child may also be experiencing “rebound”—the time when the medication is wearing off and ADHD symptoms may reappear.
- Adjust your child’s dosing schedule so that the medication is not wearing off during a time of “high demand” (for example, when homework or chores are usually being done).
- Create a period of “down time” when your child can do calm activities like listen to music, take a bath, read, etc.

- Alternatively, let your child “blow off extra energy and tension” by doing some physical exercise.
- Talk to your child’s doctor about giving your child a smaller dose of medication in the late afternoon. This is called a “stepped down” dose and helps a child transition off of medication in the evening.

### My child is losing weight or not eating enough. (Common side effects of stimulant medication use.)

- Encourage breakfast with calorie-dense foods.
- Give the morning dose of medication after your child has already eaten breakfast. Afternoon doses should also be given after lunch.
- Provide your child with nutritious after-school and bedtime snacks that are high in protein and in complex carbohydrates. Examples: Nutrition/protein bars, shakes/drinks made with protein powder, liquid meals.
- Get eating started with any highly preferred food before giving other foods.
- Consider shifting dinner to a time later in the evening when your child’s medication has worn off. Alternatively, allow your child to “graze” in the evening on healthy snacks, as he or she may be hungriest right before bed.
- Follow your child’s height and weight with careful measurements at your child’s doctor’s office and talk to your child’s doctor.

### My child has problems doing homework.

- Establish a routine and schedule for homework (a specific time and place.) Don’t allow your child to wait until the evening to get started.
- Limit distractions in the home during homework hours (reducing unnecessary noise, activity, and phone calls, and turning off the TV).
- Praise and compliment your child when he or she puts forth good effort and completes tasks. In a supportive, noncritical manner, it is appropriate and helpful to assist in pointing out and making some corrections of errors on the homework.
- It is not your responsibility to correct all of your child’s errors on homework or make him or her complete and turn in a perfect paper.
- Remind your child to do homework and offer incentives: “When you finish your homework, you can watch TV or play a game.”
- If your child struggles with reading, help by reading the material together or reading it to your son or daughter.
- Work a certain amount of time and then stop working on homework.
- Many parents find it very hard to help their child with schoolwork. Find someone who can. Consider hiring a tutor. Often a junior or senior high school student is ideal, depending on the need and age of your child.

### **My child has problems with discipline.**

- Be firm. Set rules and keep to them.
- Make sure your child understands the rules, so he or she does not feel uninformed.
- Use positive reinforcement. Praise and reward your child for good behavior.
- Change or rotate rewards frequently to maintain a high interest level.
- Punish behavior, not the child. If your child misbehaves, try alternatives like allowing natural consequences, withdrawing yourself from the conflict, or giving your child a choice.

### **My child has sleeping problems.**

- Develop bedtime rituals/routines.
  - A bedtime ritual is a powerful sign that it is time to sleep. It needs to be simple so the child can perform the ritual even if the parent is not present.
  - Try writing out the bedtime ritual to make it consistent.
- Pay attention to the sleep environment.
  - Background noises, location, sleep partners, bedding, favorite toys, and lighting can all affect a child's ability to fall asleep.
  - A cool, dark, quiet room is best.
- Letting children cry themselves to sleep is not recommended.
  - Teach them to soothe themselves, such as giving the child a special blanket, a picture of the parent(s), or a stuffed animal to hold while falling asleep.
  - Avoid activities that depend on a parent's presence, including rocking or holding the child until he or she falls asleep.
- Make the bedroom a sleep-only zone.
  - Remove most toys, games, televisions, computers, and radios from your child's bedroom if your child is having trouble falling asleep or is often up at night.
  - One or two stuffed animals are acceptable.
- Limit time in bed.
  - Hours spent awake in bed interfere with good sleep patterns; the goal is to make the child's bed a place for sleeping only.
  - Be aware of how much sleep children need at different ages. Even though adults need about 8 hours of sleep, infants and toddlers often sleep over 12 hours, and children usually sleep 10 hours. Teenagers also need lots of sleep, sometimes requiring 9 hours or more.

- Establish consistent waking times.
  - Bedtimes and waking times should be the same 7 days a week.
  - It is easier to enforce a waking time than a bedtime.
- Avoid drinks with caffeine.
  - Caffeine is present in a wide range of beverages, such as tea, soda, cocoa, and coffee. Drinking these beverages past the afternoon may make it more difficult for your child to settle down to sleep.
- Establish daytime routines.
  - Regular mealtimes and activity times, including playtime with parents, also help set sleep times.
- Chart your child's progress.
  - Praise your child for successful quiet nights.
  - Consider marking successful nights on a star chart and providing rewards at the end of the week.
- Waking up at night is a habit.
  - Social contact with parents, feeding, and availability of interesting toys encourage the child to be up late, so set limits on attention-getting behaviors at night.
- Consider medical problems.
  - Allergy, asthma, or conditions that cause pain can disrupt sleep. If your child snores loudly and/or pauses in breathing, talk to your doctor.
- Try medications to help your child sleep only under the care of your child's doctor.
  - Medications need to be used very carefully in young children. Many medications can have complications and make sleep worse.
  - Some children with ADHD may actually be helped by a small dose of a stimulant medication at bedtime. Paradoxically, this dose may help a child to get organized for sleep.
  - A few children may ultimately need other bedtime medications—at least for a little while—to help improve sleep. Talk with your doctor before starting any over-the-counter or prescription medications.

### **Take care of yourself.**

- Come to terms with your child's challenges and strengths.
- Seek support from family and friends, or professional help such as counseling or support groups.
- Help other family members recognize and understand ADHD.

Adapted from the National Initiative for Children's Healthcare Quality ADHD Toolkit.







