Knowledge Application Program

KAP Keys

For Clinicians

Based on TIP 43
Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment
www.samhsa.gov
Introduction

KAP Keys were developed to accompany the Treatment Improvement Protocol (TIP) Series published by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA). These KAP Keys are based entirely on TIP 43 and are designed to meet the needs of the busy clinician for concise, easily accessed “how to” information.

For more information on the topics in these KAP Keys, readers are referred to TIP 43.

Other Treatment Improvement Protocols (TIPs) that are relevant to these KAP Keys:

**TIP 37:** Substance Abuse Treatment for Persons With HIV/AIDS (2000) **BKD359**

**TIP 40:** Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction (2004) **BKD500**

**TIP 42:** Substance Abuse Treatment for Persons With Co-Occurring Disorders (2005) **BKD515**
Essential Information Obtained About Patients

- Risk of suicide and other emergencies

- Age (patients younger than 18 must meet Federal and State eligibility requirements for admission to an opioid treatment program [OTP])

- Method and level of opioid use and pattern of daily preoccupation with opioids

- Other substances of abuse (e.g., alcohol, nicotine, illicit drugs) and prescription and OTC medicines used

- Treatment history, preferably from previous providers (requires patient’s informed written consent)

- Recovery environment (i.e., do living environment, social network, co-residents, and housing status support or jeopardize treatment and recovery?)

- Other recovery resources (e.g., family, friends, significant others, neighbors, co-workers, insurance status, employment, education, spirituality)

- Other compulsive behaviors (e.g., gambling, sexual disorders)

- Patient motivation and reasons for seeking treatment

Essential Information Provided to Patients

- Orientation to medication-assisted treatment (MAT): treatment methods, optional programs, treatment requirements, roles and responsibilities of all those involved

- Handbook (in patient’s first language): information needed to comply with treatment requirements

- OTP information requirements and methods: written consent to treatment, program recordkeeping and confidentiality, patient rights, grievance procedures, discharge policies

- Facility safety instructions and rules

- Information on family planning, gynecological health, menopause, pregnancy testing (for women)

See TIP 43, pages 43–53.
Medical Assessment
• Physical examination
• Laboratory tests (possibly including TB, hepatitis, HIV, STD tests plus initial drug test and 8 random drug tests per year)
• Determination of opioid addiction and treatment history, extent of other substance use and treatment, medical history

Induction Assessment
• At least daily checks for signs of overmedication (intoxication or sedation) or undermedication (withdrawal symptoms) during initial dosing
• Assurance that patients are not using benzodiazepines or alcohol during induction
• Observed dosing to ensure medication ingestion
• Dosage adjustments until steady state is reached

Comprehensive Assessment
• Determination of patient motivation
• Continuing assessments of substance use
• Cultural background assessment
• Assessment of psychosocial factors (e.g., mental health, sociodemographic status, family and social network, spiritual support, physical or sexual abuse history, housing, legal status, employment and military status, sexual orientation, insurance and financial status, recreational activities)

See TIP 43, pages 49–60.
### Pharmacotherapeutic Medications for Opioid Addiction Treatment

**KAP Keys Based on TIP 43**

**Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Available Formulations</th>
<th>Receptor Pharmacology</th>
<th>FDA Approval</th>
<th>DEA Schedule</th>
<th>Treatment Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Methadone</strong></td>
<td>Oral solution, liquid concentrate, tablet/diskette, and powder</td>
<td>Full mu opioid agonist</td>
<td>Never formally approved by FDA</td>
<td>II</td>
<td>OTP</td>
</tr>
<tr>
<td><strong>Buprenorphine/Naloxone</strong></td>
<td>Sublingual tablet</td>
<td>Partial mu opioid agonist/mu antagonist</td>
<td>2002</td>
<td>III</td>
<td>Physician’s office, OTP, or other health care setting</td>
</tr>
<tr>
<td><strong>LAAM</strong></td>
<td>Oral solution</td>
<td>Full mu opioid agonist</td>
<td>1993</td>
<td>II</td>
<td>OTP</td>
</tr>
<tr>
<td><strong>Naltrexone</strong></td>
<td>Oral tablet</td>
<td>Mu opioid antagonist</td>
<td>1984</td>
<td>Not scheduled</td>
<td>Not scheduled</td>
</tr>
</tbody>
</table>

See TIP 43, pages 26–32.
### Whole Body Effects
- Weakness, loss of energy (asthenia)
- Back pain, chills
- Fluid accumulation (edema)
- Hot flashes
- Flu syndrome and malaise
- Weight gain

### Gastrointestinal Effects
- Constipation
- Dry mouth
- Nausea and vomiting
- Abdominal pain

### Musculoskeletal Effects
- Joint pain (arthralgia)
- Muscle pain (myalgia)

### Nervous System Effects
- Abnormal dreams
- Anxiety
- Decreased sex drive
- Depression
- Euphoria
- Headache
- Decreased sensitivity to tactile stimulation (hypesthesia)
- Insomnia
- Nervousness
- Somnolence

### Respiratory Effects
- Cough
- Rhinitis
- Yawning

### Cardiac Effects
- Electrocardiogram changes (possible QT prolongation with LAAM or high doses of methadone)
- Postural hypotension
- Slowed heart rate (bradycardia)

### Hepatic Effects
- Abnormal liver function tests

### Endocrine Effects
- Hyperprolactinemia
- Absence of menstrual periods (amenorrhea)

### Skin and Appendage Effects
- Sweating
- Rash

### Special Sensory Effects
- Blurred vision

### Urogenital Effects
- Difficult ejaculation
- Impotence

See TIP 43, pages 33–36.
### Reported Drug Interactions With Methadone
**KAP Keys Based on TIP 43**
**Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs**

<table>
<thead>
<tr>
<th>Agent</th>
<th>Effect on Methadone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amitriptyline</td>
<td>Decreased clearance</td>
</tr>
<tr>
<td>Amprenavir</td>
<td>Decreased serum levels; possible decreased opioid effects</td>
</tr>
<tr>
<td>Amylobarbitone</td>
<td>Increased clearance</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>Increased opioid effects</td>
</tr>
<tr>
<td>Diazepam</td>
<td>Increased opioid effects</td>
</tr>
<tr>
<td>Efavirenz</td>
<td>Decreased plasma levels and opioid effects</td>
</tr>
<tr>
<td>Ethanol</td>
<td>Increased opioid effects and added sedation</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>Decreased methadone clearance and increased SMLs*</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>Increased SMLs</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>Increased SMLs and increased opioid effects</td>
</tr>
<tr>
<td>Fusidic acid</td>
<td>Decreased opioid effects</td>
</tr>
<tr>
<td>Moclobemide</td>
<td>Increased opioid effects</td>
</tr>
<tr>
<td>Nelfinavir</td>
<td>Decreased SMLs</td>
</tr>
<tr>
<td>Nevirapine</td>
<td>Decreased SMLs and opioid effects</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>Increased SMLs</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>Decreased SMLs and opioid effects</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Decreased SMLs and opioid effects</td>
</tr>
<tr>
<td>Rifampin</td>
<td>Decreased SMLs and opioid effects</td>
</tr>
<tr>
<td>Ritonavir</td>
<td>Decreased SMLs and opioid effects</td>
</tr>
<tr>
<td>Sertraline</td>
<td>Increased SMLs</td>
</tr>
<tr>
<td>Spironolactone</td>
<td>Increased clearance</td>
</tr>
</tbody>
</table>

*Serum methadone levels

See over for strategies to prevent harmful drug interactions. See TIP 43, pages 36–40.
• Obtain a thorough drug and medication history, including results of drug and other laboratory tests.

• When adding any drugs to a therapeutic regimen, start with low doses, increase slowly, and monitor patient reactions closely.

• Educate patient about the risks of drug interactions, potentially lethal drugs or medications during agonist-based pharmacotherapy, possible cardiovascular risks, and possible effects of deviating from dosage schedules and amounts.

• Substitute alternative medications that do not interact with opioid treatment medications or have the least potential for interaction.

• Consider whether administering other medications with or without food or altering dosing schedules might reduce the risk of drug interactions.

• Simplify the medication regimen to make it easier for patient to adhere to it.

• Adjust opioid medication dosage based on patient response to avoid drug interaction, but be vigilant for signs of withdrawal or sedation.

• Increase drug testing and monitoring of drug serum levels. Advise patient of the physical signs of adverse interactions, and explain what to do if these occur.

• Be aware of concomitant diseases (e.g., liver disease) that might influence the potential for adverse drug interactions.

See TIP 43, pages 40–42.
### Medications/Substances That Alter Opioid Medication Levels in the Body

**KAP Keys Based on TIP 43**

**Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs**

**Expected To Reduce Opioid Medication Level**

<table>
<thead>
<tr>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbamazepine</td>
</tr>
<tr>
<td>Dexamethasone</td>
</tr>
</tbody>
</table>

**Expected To Increase Opioid Medication Levels**

<table>
<thead>
<tr>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethosuximide</td>
</tr>
<tr>
<td>Rifabutin</td>
</tr>
<tr>
<td>Troglitazone</td>
</tr>
</tbody>
</table>

**Expected To Increase Opioid Medication Levels*  **

<table>
<thead>
<tr>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiodarone</td>
</tr>
<tr>
<td>Cannabinoids</td>
</tr>
<tr>
<td>Clarithromycin</td>
</tr>
<tr>
<td>Erythromycin</td>
</tr>
<tr>
<td>Grapefruit juice</td>
</tr>
<tr>
<td>Indinavir</td>
</tr>
<tr>
<td>Itraconazole</td>
</tr>
<tr>
<td>Ketoconazole</td>
</tr>
<tr>
<td>Metronidazole</td>
</tr>
<tr>
<td>Mibefradil</td>
</tr>
<tr>
<td>Miconazole</td>
</tr>
<tr>
<td>Nefazodone</td>
</tr>
<tr>
<td>Norfloxacin</td>
</tr>
<tr>
<td>Omeprazole (slight)</td>
</tr>
<tr>
<td>Quinine</td>
</tr>
<tr>
<td>Saquinavir</td>
</tr>
<tr>
<td>Troleandomycin</td>
</tr>
</tbody>
</table>

*Although clarithromycin and erythromycin increase opioid medication levels, azithromycin does not.

Adapted from *Pharmacotherapy* (Michalets 1998) with permission; with additional information from Gourevitch and Friedland 2000 and McCance-Katz et al. 2000.

See TIP 43, page 40.
<table>
<thead>
<tr>
<th>Continuous Time in Treatment</th>
<th>Maximum Doses of Take-Home Medication Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 90 days (months 1–3)</td>
<td>1 dose per week</td>
</tr>
<tr>
<td>Second 90 days (months 4–6)</td>
<td>2 doses per week</td>
</tr>
<tr>
<td>Third 90 days (months 7–9)</td>
<td>3 doses per week</td>
</tr>
<tr>
<td>Fourth 90 days (months 10–12)</td>
<td>6 days’ supply per week</td>
</tr>
<tr>
<td>After 1 year of treatment</td>
<td>2 weeks’ supply</td>
</tr>
<tr>
<td>After 2 years of treatment</td>
<td>1 month’s supply (monthly OTP visits are still required)</td>
</tr>
</tbody>
</table>

- Any patient may receive take-home medication for days when treatment facilities are closed, including Sundays and holidays.
- State requirements may vary.
- No patient in short-term detoxification or interim maintenance may receive take-home maintenance medication.


See TIP 43, pages 81–85.
Recommended Focuses

- Providing support and guidance, especially to eliminate substance abuse
- Monitoring other problem behaviors
- Helping patients comply with OTP rules
- Identifying problems needing referral and extended services
- Identifying and removing treatment barriers
- Providing motivational enhancement

Standard Components

- Identification of problems needing immediate attention (e.g., homelessness)
- Help locating and joining mutual-help groups (e.g., Narcotics Anonymous, Methadone Anonymous)
- Education about addiction and effects of substance abuse
- Education about relapse prevention strategies
- Information about stress- and time-management techniques
- Assistance in developing a healthy lifestyle (e.g., exercise, good nutrition, smoking cessation, avoidance of risky sexual behaviors)
- Assistance in joining socially constructive groups (e.g., community and faith-based organizations)
- Continuing education on health issues (e.g., HIV/AIDS, hepatitis)

Types of Group Counseling in MAT

- Psychoeducational groups
- Skill development groups (e.g., relapse prevention, stress management, substance use cessation)
- Cognitive–behavioral groups
- Interpersonal-process groups
- Support groups
Common Topics for Patient Educational Sessions in MAT

KAP Keys Based on TIP 43
Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs

- Physical and psychological effects of opioid and other substance abuse
- Health information, including medical problems related to addiction, smoking cessation, improving nutritional habits (including special needs of persons with HIV), and exercise, including aerobic and meditative exercises (e.g., yoga)
- Effects of drug use on family and other relationships
- Introduction to mutual-help groups such as Methadone Anonymous
- Effects and side effects of addiction treatment medications and interactions with other drugs
- Symptoms of co-occurring disorders
- Compulsive behaviors besides substance abuse (e.g., gambling, sexual behaviors)
- Skills to attain and sustain abstinence, such as anger management and coping with cravings
- Developing non–drug-related leisure activities
- Stress management and relaxation
- Communication skills and assertiveness training
- Time management
- Parenting skills
- Avoidance of STDs and promotion of responsible sexual behavior
- Vocational planning and employment (sometimes linked with cognitive testing and conducted with vocational agencies)

See TIP 43, pages 124–133.
Treatment Plan
- Is based on a thorough patient history and assessment
- Is tailored to each patient’s needs
- Has short- and long-term goals that reflect awareness of the patient’s abilities and limitations
- Describes actions needed to reach goals
- Indicates which goals require referral and followup
- Includes specific, measurable objectives
- Incorporates strategies for building therapeutic relationships with patients
- Uses motivational enhancement to involve patients
- Is written in the patient’s own words
- Describes the patient’s strengths, abilities, and challenges
- Includes assessment of linguistic or cultural factors that affect treatment

Multidisciplinary Team
- A physician trained in addiction psychiatry
- Nonphysician medical staff members (e.g., registered nurse, nurse practitioner, physician’s assistant)
- A pharmacist or pharmacy assistant
- Nonmedical professional staff members (e.g., case coordinator, social worker, psychologist, vocational and educational specialist)
- A certified or licensed addiction specialist or drug counselor
- Nontreatment and administrative staff members (e.g., office manager, clerical staff, receptionist, secretary)
- Security personnel who ensure the safety and well-being of patients and staff on site

See TIP 43, pages 95–100.
Acute Infections
• Endocarditis
• Soft-tissue infections (e.g., cellulitis, abscesses)
• Necrotizing fasciitis
• Wound botulism

Infectious Diseases
• TB
• Syphilis
• Genital chlamydia
• Gonococcus infections
• Hepatitis A, B, and C
• HIV/AIDS

Chronic Diseases
• Diabetes
• Asthma
• Hypertension
• Chronic obstructive pulmonary disease
• Coronary artery disease

Pain
• Acute (e.g., associated with traumatic injury, labor and delivery)
• Chronic (e.g., associated with cancer, arthritis, disc disease)

See KAP Key 13 for hepatitis C evaluation flowchart.

See TIP 43, pages 163–173.
Hepatitis C Evaluation Flowchart

KAP Keys Based on TIP 43
Medication-Assisted Treatment for Opioid Addiction
in Opioid Treatment Programs

HCV antibody screening, enzyme immunoassay

Antibody negative: Not exposed or recently exposed

Antibody positive: Exposed to HCV (80% to 90% of MAT patients)

Test viral activity: Polymerase chain reaction, viral load

Virus detectable, regardless of count: Active infection

No fibrosis or mild fibrosis on biopsy: Monitor status regularly

Severe cirrhosis or treatment contraindicated: Consider transplant list referral, follow and treat co-occurring disease

Moderate fibrosis to early cirrhosis: PEG Interferon and ribavirin treatment for 6 months to 1 year; length of treatment depends on viral genotype

More extensive evaluation of status: Liver biopsy, viral genotype, evidence or history of already advanced liver disease, ability to withstand treatment (depression, anemia, autoimmune illness), ability to comply with treatment

No active virus: Spontaneously cleared HCV (15% to 25% of antibody-positive patients)

Retest in 6 weeks and regularly if still using drugs

See TIP 43, pages 167–171.
## Cutoff Concentrations and Detection Times for Substances of Abuse

**KAP Keys Based on TIP 43**  
**Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs**

### Drug  | Cutoff Concentrations (ng/mL*) | Analytes Tested in Confirmation | Urine Detection Time (Days)
--- | --- | --- | ---
Amphetamine | 1,000 | 500 | Amphetamine | 2–4
Barbiturates | 200 | 200 | Amobarbital, secobarbital, other barbiturates | 2–4 for short acting; up to 30 for long acting
Benzodiazepines | 200 | 200 | Oxazepam, diazepam, others | Up to 30 for long acting
Cocaine | 300 | 150 | Benzoylecgonine | 1–3 for sporadic use; up to 12 for chronic use
Codeine | 300 | 300, 300 | Codeine, morphine | 1–3
Heroin | 300 | 300, 10 | Morphine, 6-acetylmorphine | 1–3
Marijuana | 100, 50, 20 | 15 | Tetra-hydrocannabinol (THC) | 1–3 for casual use; up to 30 for chronic use
Methadone | 300 | 300 | Methadone | 2–4
Methamphetamine | 1,000 | 500, 200 | Methamphetamine, amphetamine | 2–4
Phencyclidine | 25 | 25 | Phencyclidine | 2–7 for casual use; up to 30 for chronic use

*ng/mL: nanograms per milliliter

Adapted from Cone 1997.

See TIP 43, pages 144–146.
General Preparation

• Perform specimen collection in a therapeutic, humane environment.

• Clean bathrooms frequently, and supply with soap and toilet articles.

• Inform patients at admission of testing and collection procedures, including whether and when observed dosing may be used, and their responsibility.

• Use clinical judgment about need for direct observation of specimen collection (vs. temperature strips, adulterant checks, ambient-temperature guns, substitution of oral swabs) unless mandated by State.

• Put testing policies and procedures in writing, and give each patient a copy.

• Protect patients’ dignity and privacy.

• Minimize opportunities for falsification (monitor bathrooms, have patients leave parcels outside, allow only one patient in bathroom at a time).

• Ensure confidentiality by storing specimens and records so only authorized personnel can access them.

• Maintain universal safety precautions when handling specimens.

Specific Procedures

• Staff member greets patient and decides whether a specimen is required (based on judgment or random list) before patient receives medication.

• Patient is sent to bathroom with a labeled container to provide specimen.

• Staff member receives container and ensures a valid specimen (checks warmth or uses temperature strips, adulterant checks, ambient-temperature guns).

• Staff member packages specimen and sends it to the lab.

See TIP 43, pages 146–149.
## Common Immunoassays Used in Drug Testing

**KAP Keys Based on TIP 43**

Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs

<table>
<thead>
<tr>
<th>Assay</th>
<th>Brand Name(s)</th>
<th>Maker(s)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIA</td>
<td>EMIT, CEDIA</td>
<td>Syva, Boehringer Mannheim/ Microgenics</td>
<td>Used widely; inexpensive; equipment available for automated, high-volume rapid analysis; sensitive to some adulterants</td>
</tr>
<tr>
<td>Fluorescence polarization</td>
<td>Adx, TDx</td>
<td>Abbott Diagnostics</td>
<td>Resistant to several adulterants; reasonably good quantitative estimates of concentrations; slower and more expensive than EIA and KIMS</td>
</tr>
<tr>
<td>Kinetic interaction of microparticles (KIMS)</td>
<td>OnTrak, TesTcup, OnLine</td>
<td>Roche Diagnostics</td>
<td>Equipment available for automated, high-volume rapid analysis; used by some large laboratories</td>
</tr>
<tr>
<td>Colloidal metal (CMI)</td>
<td>Triage</td>
<td>Biosite Diagnostics</td>
<td>Used in onsite testing</td>
</tr>
<tr>
<td>RIA</td>
<td>Abu-screen</td>
<td>Roche Diagnostics</td>
<td>Labor intensive; resistant to several adulterants; not used widely</td>
</tr>
</tbody>
</table>

Adapted from Swotinsky and Smith 1999, with permission of Medical Review Officer Certification Council.

See TIP 43, pages 149–151.
### Frequently Used Substance Combinations and Common Reasons for Use

**KAP Keys Based on TIP 43**

**Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs**

See TIP 43, pages 181–182.

<table>
<thead>
<tr>
<th>Combination</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin plus alcohol</td>
<td>Enhance a high; create euphoria or sedation</td>
</tr>
<tr>
<td>Heroin followed by alcohol</td>
<td>Medicate opioid withdrawal; medicate cocaine overstimulation (e.g., anxiety, paranoia)</td>
</tr>
<tr>
<td>Heroin plus cocaine (&quot;speedball&quot;)</td>
<td>Enhance or alter cocaine euphoria</td>
</tr>
<tr>
<td>Heroin followed by cocaine</td>
<td>Medicate opioid withdrawal</td>
</tr>
<tr>
<td>Cocaine plus alcohol</td>
<td>Enhance high; reduce cocaine overstimulation (e.g., anxiety, paranoia)</td>
</tr>
<tr>
<td>Cocaine followed by heroin</td>
<td>Reduce cocaine overstimulation (e.g., anxiety, paranoia); modulate the cocaine “crash”</td>
</tr>
<tr>
<td>Methadone plus alcohol</td>
<td>Create a high; sedate</td>
</tr>
<tr>
<td>Methadone plus cocaine</td>
<td>Reduce cocaine overstimulation (e.g., anxiety, paranoia); moderate the cocaine “crash”</td>
</tr>
<tr>
<td>Methadone plus benzodiazepines</td>
<td>Create a high; sedate</td>
</tr>
<tr>
<td>Any opioid plus any non-benzodiazepine sedative</td>
<td>Create a high; sedate</td>
</tr>
<tr>
<td>Any opioid followed by any nonbenzodiazepine sedative</td>
<td>Medicate opioid withdrawal</td>
</tr>
<tr>
<td>Any opioid plus amphetamine</td>
<td>Create a high</td>
</tr>
</tbody>
</table>
Common Medical and Obstetrical Complications Among Pregnant Women
KAP Keys Based on TIP 43
Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs

**Medical Complications**

<table>
<thead>
<tr>
<th>Anemia</th>
<th>STDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteremia/septicemia</td>
<td>Chlamydia</td>
</tr>
<tr>
<td>Cardiac disease, especially endocarditis</td>
<td>Condyloma acuminatum</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>Gonorrhea</td>
</tr>
<tr>
<td>Depression and other mental disorders</td>
<td>Herpes</td>
</tr>
<tr>
<td>Edema</td>
<td>HIV/AIDS</td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>Syphilis</td>
</tr>
<tr>
<td>Hepatitis (acute and chronic)</td>
<td>Tetanus</td>
</tr>
<tr>
<td>Hypertension/tachycardia</td>
<td>TB</td>
</tr>
<tr>
<td>Phlebitis</td>
<td>Urinary tract infections</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>Cystitis</td>
</tr>
<tr>
<td>Poor dental hygiene</td>
<td>Pyelonephritis</td>
</tr>
<tr>
<td>Adapted from Finnegan 1979.</td>
<td>Urethritis</td>
</tr>
</tbody>
</table>

**Obstetrical Complications**

<table>
<thead>
<tr>
<th>Abruptio placentae</th>
<th>Postpartum hemorrhage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chorioamnionitis</td>
<td>Preeclampsia</td>
</tr>
<tr>
<td>Intrauterine death</td>
<td>Premature labor/delivery</td>
</tr>
<tr>
<td>Intrauterine growth retardation</td>
<td>Premature rupture of membranes</td>
</tr>
<tr>
<td>Intrauterine passage of meconium</td>
<td>Septic thrombophlebitis</td>
</tr>
<tr>
<td>Low Apgar scores</td>
<td>Spontaneous abortion</td>
</tr>
<tr>
<td>Placental insufficiency</td>
<td></td>
</tr>
</tbody>
</table>


See TIP 43, pages 212–215.
Laboratory Tests for Pregnant Women Who Are Opioid Addicted

KAP Keys Based on TIP 43
Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs

- Complete blood count with differential and platelets
- SMA-12 chemistry screen
- Hepatic panel (liver function tests)
- Hepatitis B surface antigen (full panel if positive)
- Hepatitis C antibody
- Rubella titer
- Serology (Venereal Disease Research Laboratory or Rapid Plasma Reagin tests)
- Sickle prep (if appropriate)
- Blood type; Rh and indirect Coombs Varicella (if unsure of history)
- HIV (with counseling)
- Urine tests
  - Urinalysis—routine and microscopic
  - Urine culture and sensitivity
  - Urine drug screen
- Tuberculin skin test (Mantoux)
- Alpha-fetoprotein between 15 and 21 weeks’ gestation (optimal, 16 to 18 weeks)
- 1-hour, 50 milligrams (mg) glucose challenge test at 24 to 28 weeks’ gestation (at initial visit if risk factors)
- Repeat complete blood count and serology at 24 to 28 weeks’ gestation
- Group B Strep vaginal-rectal culture at 35 to 37 weeks’ gestation


See TIP 43, pages 214–215.
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3. Access TIPs online at www.kap.samhsa.gov.

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