### Chapter 9: Management of Common Issues

**Psychiatry Consults:**

Depression, Anxiety, Psychosis, Substance Abuse, PTSD, Delirium; **actively** complicating care **not able to be managed by the primary team.**

* As with all consults one should be able to articulate the **BASIS** for the consult, a **CLEAR QUESTION** for the consultant to answer, and the **URGENCY** with which the answer is needed.
* This is needed for both the Consult Request Note in Essentris as well as when discussing the case with the consultant.
* The consult service does NOT have techs and cannot provide personnel for monitoring patients

**Admission to 7 West:**

See relevant chapters in this manual for more details (Voluntary Admissions, Involuntary Admissions, Emergency and Command Directed Evaluations). Briefly,

VOLUNTARY: Patients should not require anything that can be weaponized (e.g. intravenous catheters, tubing) by patients or others on the ward. **Patients should be medically stable** and not need close physiological monitoring (vitals and labs more than BID) as nurses are often occupied by running therapy groups and monitoring the entire milieu for safety.

* Dependents over the age 18,
* Veterans, and
* Active Duty Service Members

INVOLUNTARY:

* Active Duty ONLY! Please be aware of patient’s Boxer Rights (DoDI 6490.04) which specify the due process safeguards patients are entitled to.
* Non-Active Duty must be sent out to outside hospitals in Maryland.

Psychiatric Work-Up:

* Medication Reconciliation - for all patients!
* Labs: CBC, CMP, B12/Folate, RPR/FTA, HIV, TSH
* If on Tricyclic Antidepressants (TCAs) consider TCA levels

o Examples: Amitriptyline, Nortriptyline

* EKG – Long-QTc can be seen with antipsychotics and TCAs
* Imaging: Head CT may be warranted for unexplained changes in mental status, especially in the elderly or those with history of TBI.

**Capacity Evaluations:**

Assessment as to whether the patient can make an informed decision**. ALL PHYSICIANS are authorized to make these determinations.** Capacity determinations are always specific situation; not global (only courts can make global determinations about the patient’s ability to make decisions in all aspects of life).

Often described as 4 C’s: COMMUNICATE a CHOICE demonstrating CONSIDERATION of the

CONSEQUENCES ensuing from the decision.

1. **COMMUNICATE**: Clearly indicate a preference verbally (oral/written), sign, or gestures
2. **CHOICE**: Understand the fundamental meaning of the information, summarize the situation and the decision to be made; as well as knowledge of alternatives.
3. **CONSIDERATION**: Engage in rational manipulation of the relevant information even if the choice

may seem “unreasonable” to the primary team based on personal values.

1. **CONSEQUENCES**: Demonstrate an understanding of the risks and benefits for the options presented.

**Delirium:**

* **Delirium:** Acute waxing and waning of mental status characterized by impaired cognitive function, inability to accurately perceive surroundings, or process information.
	+ Can be hyperactive or hypoactive (the more common form in the elderly).
* **Significance:** Longer LOS, higher mortality, more complications (extubations, line removals, cardiovascular stress, injuries).
* **Delirium v. Dementia: SOCO-CHAPS**
	+ **S**leep/Wake: Abnormal v. normal
	+ **O**rientation: Disorganized v. Disoriented
	+ **C**onsciousness: Decreased/hyper alert, clouded v. Alert
	+ **O**nset: Acute/sub-acute v. Chronic
	+ **C**ourse: fluctuating v. steady slow decline
	+ **H**allucinations: perceptual disturbances/hallucinations v. Usually none
	+ **A**ttention: Impaired v. usually normal
	+ **P**sychomotor: agitated/lethargic v. usually normal
	+ **S**peech: Slow/incoherent v. aphasic, anomic, difficulty w/ word finding.
* Causes:
	+ **I WATCH DEATH:** Infection (HIV, sepsis, PNA), Withdrawal (EtOH, barbituates, sedative- hypnotics), Acute metabolic (acidosis, alkokosis, electrolyte disturbance, hepatic failure, renal failure), Trauma (closed-head injury, heat stroke, postoperative, severe burns), CNS pathology (abscess, hemorrhage, hydrocephalus, subdural hematoma, infection, seizures, stroke, tumors, metastases, vasculitis, encephalitis, meningitis, syphilis), Hypoxia (anemia, CO, hypotension, pulmonary/cardiac failure), Deficiencies (Vitamin B12, folate, niacin, thiamine), Endocrinopathies (hyper/hypoadrenocorticism, hyper/hypoglycemia, myxedema, hyperparathyroidism), Acute vascular (hypertensive encephalopathy, stroke, arrhythmia, shock), Toxins/Drugs (prescription/illicit, pesticides, solvents), Heavy Metals (Pb, Mn, Hg).
* **Evaluation:**
	+ ABCs (as always)
	+ **RASS: Richmond Agitation Sedation Scale**
		- BLUF: Alert & Calm = 0;
		- Increasingly Sedated < 0 < Increasingly Agitated
		- Combative, violent, imminent danger to staff = (+4)
		- Unarousable, no response to voice/physical stimulation = (-5)
		- Light Sedation – Briefly awakens with eye contact to voice <10 sec = (-2)
	+ **CAM-ICU: Confusion Assessment Method for the ICU**
		- BLUF: Does the patient have AMS?
		- Squeeze hands to every “A” in “S-A-V-E-H-A-A-R-T” mistakes >2
		- Do stones float? Fish in the sea? Do you use a hammer for nails ?
		- Mistakes>1 – suggest confusion and work up for delirium
	+ Labs – electrolytes, LFTs, ABG/pulse ox
	+ EKG – r/o myocardial ischemia
	+ CT/MRI/LP to look for potential causes (above)
	+ Medication reconciliation to look for deliriogenic medications (anti-cholinergic, benzodiazepine) or interactions.
* Management: After you’ve looked for/treated/addressed/ can’t find underlying cause
	+ General Delirium:
		- **Non-Medical: Think of things that would annoy/irritate/drive you crazy**
			* Re-orientation: Person, place, date, time
			* Sensory Enhancement: to improve the sensorium
				+ Eye-glasses, hearing aids
			* Sleep Cycles
		- Isolation from family/friends
			* Window/Environmental/television stimulation
			* Avoid Restraints/Urinary Catheters/over-stimulation/other delirious patients
		- Medical:
			* **Haldol 2-5mg IV x1** is generally considered a first line agent due to its rapid onset and IV dosing route. Double subsequent dose if initial is ineffective. May schedule q 4 -6h prn. Max: 80mg a day. Risk of EPS
				+ NB: EPS- extrapyramidal side effects = akinesia, akathisia, dystonia, tremor, rigidity
				+ Little effect on cardiovascular/pulmonary status
			* **Quetiapine 12.5- 200mg PO q6** may be used; however, patients must be able to receive enteral medications and not require acute treatment due to Quetiapine’s delayed onset.
			* **Olanzapine 5mg to 10mg SL** is an alternative to Quetiapine if enteral medications are contraindicated. Risk of long QTc and EPS
			* **Dexmedetomidine 0.2-0.7 mcg/kg/hr IV** may be used for refractory agitation/delirium. Less time on vent, less delirium, less tachycardia/HTN than pts on midazolam
				+ Be wary of initial HTN with ensuing hypotension, bradycardia
				+ This is an ICU level intervention!
			* **AVOID:** Benzodiazepines – can aggravate delirium

**Alcohol Withdrawal**

* **CIWA: Clinical Institute Withdrawal Assessment**
	+ Objective scoring system for evaluating alcohol withdrawal
	+ ICU often recommended for Scores >20/67
	+ Withdrawal Timeline (hours s/p last drink):
		- 6-8: Tremors, agitation, sleep disturbances, hyper excitability
		- 7-48: Seizures
		- 24-36: Hallucinations (visual, tactile, auditory)
		- 72-120 : Confusion, delusions, autonomic hyperactivity, disorientation
		- Delirium Tremens: tachycardia, HTN, low-grade fever, diaphoresis, delirium – 5-15% mortality
	+ Death most often from arrhythmia or underlying critical illness (48-96h s/p last drink)
* Short acting benzodiazepines – less benzodiazepine usage but greater risk of seizures/withdrawal symptoms
	+ **Lorazepam (Ativan) 1-2mg IV/PO/IM q6h** per CIWA score target
		- Intermediate onset, no active metabolites, half-life of 10-20h
* Long acting benzodiazepines – even taper of benzo
	+ **Diazepam (Valium) 5-20mg IV/PO q6h**
		- Fast onset, active metabolites, half-life 20-70h
	+ **Chlordiazepoxide (Librium) 50-100mg IV/IM q2-4h**
		- Intermediate onset, active metabolite, half-life 5-30h
	+ CONSIDER:
		- Wernicke’s Encephalopathy
			* Opthalmoplegia, ataxia, confusion
			* Thiamine 100mg IV/IM x 5 days
		- Korsakoff – amnestic confabulations
	+ Hypertension: **Clonidine (Catapres) 0.1-0.2mg q6h**; Max 0.5mg
	+ AVOID: haloperidol - can aggravate these symptoms

##### Opioid Withdrawal

**COWS: Clinical Opioid Withdrawal Scale**

Physical Symptoms: Diarrhea, nausea, vomiting, irritability, thermoregulation abnormalities, mydriasis, insomnia, muscle/joint pain, anxiety, dysphoria, gooseflesh, yawning

Psychological Symptoms: Anxiety and dysphoria, craving for opioids, restlessness, insomnia, fatigue Symptom Onset:

Initial: 0-8 hours from last use (peak at 36—72hours) – Anxiety, fear of withdrawal, craving for drug, diaphoresis, chills, lacrimation, yawning.

Middle: 12 hours (peak at 72 hours) - Piloerection, anorexia, dilated pupils, anxiety, irritability dysphoria, restlessness, mild-moderate insomnia, tremor, mild tachycardia and/or hypertension, abdominal cramps

Late: 23-36 hours (Peak at 72 hours): Abdominal cramps, diarrhea, myalgias, muscle spasms (esp. in lower extremities), nausea, vomiting, diarrhea, severe insomnia, violent yawning

NOTE: Methadone withdrawal will take longer (23-48h from last dose and can persist 2-3 weeks longer.

Physical symptoms resolve by 5-10 days; psychological last weeks to months

Risks: Typically not life-threatening but may have associated with pregnancy; relapse overdose as patients use pre-withdrawal amount despite tolerance beginning to decrease as early as 3 days from last use.

**SCREEN PATEINTS FOR PREGNANCY AND SUICIDALITY and WARN** them

about the potential for overdose if they resume at previously used doses

COWS Can be found at: <http://www.naabt.org/documents/cows_induction_flow_sheet.pdf>

Should be performed at least every 24 hours; seek help if at any time you feel uncomfortable managing the patient or for scores >14 (moderate withdrawal).

Treatments:

**Nausea/Vomiting:** Ondansetron 8mg po bid prn; OR prochlorperazine 4-5mg po q4 prn **Diarrhea:** Loperamide 4mg po; then 2mg po prn maximum 16mg/24h ; diclyclomine 20mg po q6h prn (max 160mg/24 hours).

**Myalgia:** Acetaminophen 325-650mg po q4h (check for liver function if co-morbid alcohol or hepatitis); OR naproxen 500mg po bid with meals

**Anxiety, dysphoria, lacrimation, rhinorrhea:** Hydroxyzine 24-40mg po prn tid

**Insomnia:** Trazodone 50-100mg po qhs; zolpidem 5-10mg po qhs; eszopiclone 1mg po qhs; or zaleplon 5-10mg po qhs.

**Cravings: Clonidine 0.1-0.2mg q6h** – block analogous receptors as opioids in locus ceruleus to decrease cravings.

Start with 0.1mg po test dose – monitor blood pressure 1 hour post; do not continue if patient has postural hypotension, BP<90/60, or HR<60. During protocol monitor BP prior to each dose; if patient is positive for the above, hold next scheduled dose.

If tolerated proceed to weight-based taper:

Patient <200 lbs (91kg): Days 1-4: Clonidine 0.1mg po qid; Days 5-6 – clonidine

0.05 po qid; days 7-8 clonidine 0.025mg po qid

Patient >200 lbs (91kg): Days 1-4: Clonidine 0.2mg po qid; days 5-6 – clonidine 0.1mg po qid, day 7 clonidine 0.05mg po qid; day 8 clonidine -.025mg po qid.

Longer acting treatments not available in the DoD for Opioid Withdrawal:

**Methadone 5m up to 10-20mg** in first 24h with taper to 80% of preceding dose each subsequent day

**Buprenorphine-naloxone (Suboxone) 8-24mg SL daily** – mu-opioid receptor agonist Risk of precipitating withdrawal if started prior to symptoms (8-24h) Burprenorphine has a higher affinity for mu-opioid receptor than opioids w/h will render further opioid pain control ineffective

Consider pain in your patient that may need opioids because of pre-existing tolerance. HR/BP/RR may not be accurate assessments of pain

Opioid Protocol Can be found at : [https://www.saskatoonhealthregion.ca/locations\_services/Services/mhas/Documents/Resources%20for%20Prof](https://www.saskatoonhealthregion.ca/locations_services/Services/mhas/Documents/Resources%20for%20Professionals/Opioidwithdrawalprotocol-finaldraftJan14-2010_000.pdf) [essionals/Opioidwithdrawalprotocol-finaldraftJan14-2010\_000.pdf](https://www.saskatoonhealthregion.ca/locations_services/Services/mhas/Documents/Resources%20for%20Professionals/Opioidwithdrawalprotocol-finaldraftJan14-2010_000.pdf)

##### Psychotropic Medication Reactions

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| **Potential Psychotropic Medication Reactions** |
| **Condition** | **Meds** | **Onset Time** | **Vitals** | **Pupils** | **Mucosa** | **Skin** | **Bowel Sounds** | **NM****Tone** | **Refle x** | **Mental Status** |
| **Serotonin Syndrome** | 5-HT | <12h | ↑:BP,RR,RR,Temp (>41.1C) | Mydriasis | Sialorrhea | Diaphore sis | ↑Activity | ↑LE>UE | ↑/clonus | Agitation/ coma |
| **Anti-Ach** | Anti- Ach | <12h | ↑:BP, HR,RR,Temp (<38.8) | Mydriasis | Dry | Erythem a, hot and dry | ↓/absent | Normal | Norma l | Agitated Delirium |
| **NMS** | DAAgonist | 1-3d | ↑:BP, RR, RR,HTN, Temp (>41.1) | Normal | Sialorrhea | Pallor/di aphoresis | ↓/absent | "lead pipe" rigidity | Brady reflexia | Stupor/ alert mutism,coma |
| **Malignant Hyperthermia** | Inhalati on Anesth etics | 30m-24h | ↑:BP, HR,RR,Temp (46.0C) | Normal | Normal | Mottled diaphores is | ↓ | Rigor mortis- like rigidity | ↓ | Agitation |

**Medication Induced Movement Disorders**

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| **Disorder** | Time Course | Risk Factors | Signs/Symptoms | Management |
| Dystonia | First 5 days -3months. | Treatment naïve (e.g. | Acute muscle spasm, can | Intramuscular diphenhydramine or |
|  | Rare tardive dystonia | young black males), | occur in any muscle of | benztropine, may need repeated dosing |
|  | may occur with | elderly, 1st generation | body – look for stiffness, | until symptoms resolve |
|  | prolonged treatment | antipsychotic | immobility | - Benztropine (oral 1-2 weeks, may |
|  | (usually greater than 6 |  | Most frequently occur in | prevent recurrence) |
|  | months) |  | head/neck | - Reduction of dose, slower titration, or |
|  |  |  |  | changing agent |
| Akathisia | 1st 3 months, or | 1st Generation | Subjective/objective | Anti-Parkinson’s agent, |
|  | anytime during | Antipsychotic | feelings of inner | beta blocker, or benzodiazepine. May |
|  | treatment. Rare tardive |  | restlessness, | reduce dose of agent |
|  | akathisia may occur with |  | uncomfortable and |  |
|  | prolonged treatment |  | unrelenting |  |
|  | (usually greater |  |  |  |
|  | than 6 months) |  |  |  |
| Pseudo- | 1st 3 months (5 to 90 | Women, older age | Decreased movements | Reduce dose, change agent, or use oral |
| Parkinsonism | days) | (>40 years). 1st | (mask-like facies, | agents such as Benztropine, |
|  |  | generation | bradykinesia, akinesia), | trihexyphenidyl, diphenhydramine, |
|  |  | antipsychotic | muscle stiffness | biperiden, or amantadine(taper |
|  |  |  | (cogwheel and lead pipe | anticholinergic & reassess every 4 to 6 |
|  |  |  | rigidity), resting hand | weeks) |
|  |  |  | tremor, drooling, and |  |
|  |  |  | shuffling gait |  |
| Tardive | 6 months—years | Middle-aged women, | Involuntary movements | No effective treatment, may worsen by |
| Dyskinesia |  | elderly, long-term use, | including blinking, lip | abruptly stopping/lowering |
|  |  | greater for 1st | smacking, | dose/adding anticholinergic and then |
|  |  | generation, high dose, | and writhing movements | improve over time. May be a role for |
|  |  | high potency agents | of the face, neck, back, | clozapine or quetiapine |
|  |  |  | trunk, and/or extremities |  |
| Adapted from: <http://cpnp.org/sites/default/files/Quick_Reference_Chart.pdf> |

**Substance Intoxication/Withdrawal**

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| **Summary of Substance Intoxication/Withdrawal Presentations** |
| **Substance** | **Intoxication** | **Withdrawal** | **Complications** | **Treatment** |
| **Alcohol** | Decreased inhibition, slurred speech, impaired coordination, inattentiveness, decreased consciousness, retrogradeamnesia | Diaphoresis, tachycardia, nausea, vomiting, delirium tremens | Malnutrition (B12, thiamine), encephalopathy, accidents, suicide,cirrhosis, GIB | Supplemental nutrition, counseling, withdrawal management. Withdrawal can be fatal. |
| **Stimulants** | Hyperactivity, psychomotor agitation, pupillary dilation, tachycardia, HTN, psychosis | Anxiety, depression, fatigue, increased appetite, suppressedappetite, fatigue | Syncope depression, fatigue, Parkinsonian symptoms. | Rehabilitative counseling, antipsychotics, benzodiazepines (short term) |
| **Benzo** | Sedation, amnesia, slurredspeech, decreased coordination | Anxiety, insomnia,tremor, seizures | Memory Loss | Rehabilitative counseling,anticonvulsants |
| **Caffeine** | Insomnia, restlessness, tremor,anxiety, tachycardia | Headaches, fatigue,inattentiveness | GI irritation, fatigue,inattentiveness | Gradual reduction |
| **Cocaine** | Euphoria, tachycardia, psychomotor agitation, pupillary dilation, hypertension, paranoia, grandiosity | Sedation, depression, psychomotor retardation, fatigue, anhedonia | Arrhythmias, sudden cardiac death, (hemorrhagic) stroke, suicidal ideation,inattentiveness | Reduction of hypertension, antipsychotics, benzodiazepines, phenotolamine, rehabilitativecounseling |
| **Hallucinogens** | Hallucinations, delusions, anxiety,paranoia, tachcycardia, pupillarydilation, tremors | Few | Psychosis and flashbacks, | Quiet dark room to avoid hallucinations, safeenvironment, anti-psychotics |
| **Marijuana** | Euphoria, paranoia, psychomotor retardation, impaired judgment, increasedappetite, conjunctival injection | Irritability,depression, insomnia, nausea,tremor | Amotivational syndrome, infertility, depression, psychosis | Rehabilitative counseling, antipsychotics (short term) |
| **Nicotine** | Restlessness, nausea, vomiting , abdominal pain | Insomnia, irritability, inattentiveness, nervousness,headaches | Cancer, COPD, increased respiratory infections, ischemicheart disease | Rehabilitative Counseling, Replacement (Patch, lozenge, gum, nicotrol, gum), bupropion |
| **Opioids** | Euphoira, slurred speech, pupillary constriction, inattentiveness, respiratory depression, decreasedconsciousness | Depression, anxiety, stomach cramps, nausea, vomiting, diarrhea, myalgia,piloerection | Constipation (narcotic bowel), increased risk of blood born infection with IV drug use | See COWS above for acute management. Naloxone for acute overdose; will make further pain control difficult |
| **PCP** | Euhphoria, impulsiveness, aggressive behavior, nystagmus (vertical and horizontal), hyperreflexia | Sudden violent behavior, variable levels of consciousness | Psychosis, memory deficits, impaired cognitive function, inability to retrievewords | Isolated containment until resolution of intoxication; benzodiazepines, antipscyhotics. |
| **Spice/Bath Salts:** | AKA Synthetic Cannabinoids/Cathinones, respectively, can have varying effects as there are no consistent manufacturing processes and are often laced with other drugs. Use is not included in the normal drug screen and requires special order (Synthetic Cannabinoids/Cathinones or Mephedrone) to be sent. Results take multiple weeks to return but may be useful for follow-on care. Periodic slight changes to structure of molecule make detection tests amoving target. |
| Chart adapted from Van Kleinen J, Step Up to USMLE Step 2, Second Edition. |

**Neuroleptic Malignant & Serotonin Syndromes**

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| --- | --- |
| **Neuroleptic Malignant Syndrome 333.92** | **Serotonin (5-HT) Syndrome** |
| * The development of severe **muscle rigidity** and **elevated temperature** associated with the use of neuroleptic medication.
* Two (or more) of the following:

Dysphagia Abnormal BPTremor Leukocytosis Incontinence Muscle injury (CPK, etc.) Mutism DiaphoresisAMS Tachycardia* The symptoms are not due to another substance, GMC, other mental disorder
 | In the presence of a 5-HT agent, 5-HT toxicity exists:* If spontaneous clonus is present; OR
* If inducible clonus AND agitation or diaphoresis are present; OR
* If ocular clonus AND agitation or diaphoresis are present;OR
* If tremor AND hyper-reflexia are present; OR
* If hypertonia AND pyrexia (temperature >100.4°F [>38°C]); AND
* ocular clonus or inducible clonus are present.
 |
| **NMS Risk Factors** | **TREATMENT for 5-HT Syndrome** |
| 1)Previous NMS 5)High/Rapid Escalation of Neuroleptic 2)Dehydration dose1. Agitation 6)Abrupt Discontinuation of DA-
2. IM Injections agonist
	1. Organic Brain Disease/TBI
	2. Mood Disorder
 | * Remove offending agent!!!
	+ **Mild:** Intermittent myoclonus, tremor, hyperreflexia, shivering, diaphoresis, mydriasis, tachycardia -> Supportive, IVF, benzodiazepine for agitation, avoid restraints (rhabodymyolysis)
	+ **Moderate:** Temp <40C/104F, mydriasis, hyperactive bowel sounds, clonus LE>UE, horizontal ocular clonus, AMS (agitation, delirium, coma) - > 5-HT2A Antagonist: cyproheptadine (PO/NG) 12-32mg/24h; Load: 12mg /a 2mg q2h prn; maintenance 8mg q6h
	+ **Severe:** Shock, muscular rigidity, hypertonicity, ↑ AST, ALT, CK, Cr, BUN -> Sedation, paralysis with non- depolarizing (vecuronium), ET-Intubation
 |
| **TREATMENT for NMS***:***-Supportive:** IVF, nutrition, ice packs, cooling blankets, respiratory support prn, +/- alkalinize urine, dialysis, DVT ppx**-Medications:** DANTROLENE 1-3mg/kg/d DIVIDED qid; or BROMOCRIPTINE load 2.5mg tid up to 5-10mg tid; or LORAZEPAM 1-2mg q4h**- ECT:** if refractory to medication, b/l electrodes x6-10**\*Px:** Mortality 10%, may rechallenge /p 2w at low-dose of low- potency/ atypical ~30% recurrence |

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| **Drugs and Drug Interactions Associated with Serotonin Syndrome** |
| Serotonin Syndrome Generally | SEVERE Serotonin Syndrome |
| **ANTIDEPRESSANTS**SSRI: Sertraline, fluxoetine, fluvoxamine, paroxetine, citalopram Misc: Trazodone, nefazodone, buspirone, clomipramine, venlafaxine MAO-I: Phenelzine, moclobemide, clorgiline, isocarboxazid**ANTI-CONVULSANTS:** Valproate, Lithium**ANALGESICS:** meperidine, fentanyl, tramadol, pentazocine, triptans **ANTI-EMETIC:** ondansetron, gransietron, metoclopromide **BARIATRIC:** Subutramine**ANTIBIOTIC:** Linezolid, ritonavir**OTC:** Dextromethorphan, tryptophan, St. john's word, ginseng**Illicits:** MDMA, LSD, Syrian Rue, foxy methoxy | Mirtazapine and tramadol/venlafaxine Tranylcypromine and imipramine SSRI and moclobemide/phenelzine Paroxetine and buspirone Linezolid and citalopram Phenelzine and meperidine |

**0 - 2**

**Errors**

**YES**

1. **Acute Change or Fluctuating Course of Mental Status:**
	* **Is there an acute change from mental status baseline? OR**
	* **Has the patient’s mental status fluctuated during the past 24 hours?**

**Confusion Assessment Method for the ICU (CAM-ICU) Flowsheet**

**NO**

**CAM-ICU negative NO DELIRIUM**

1. **Inattention:**
	* **“*Squeeze my hand when I say the letter ‘A’*.” Read the following sequence of letters:**

**S A V E A H A A R T** or **C A S A B L A N C A** or **A B A D B A D A A Y**

**ERRORS: No squeeze with ‘A’ & Squeeze on letter other than ‘A’**

* + **If unable to complete Letters** � **Pictures**

**CAM-ICU negative NO DELIRIUM**

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**> 2 Errors**

**RASS other**

**than zero**

**CAM-ICU positive DELIRIUM Present**

**RASS = zero**

**> 1 Error**

**0 - 1**

**Error**

**CAM-ICU negative NO DELIRIUM**

1. **Disorganized Thinking:**
	1. **Will a stone float on water?**
	2. **Are there fish in the sea?**
	3. **Does one pound weigh more than two?**
	4. **Can you use a hammer to pound a nail?**

**Command: “Hold up this many fingers” (Hold up 2 fingers)**

**“Now do the same thing with the other hand” (Do not demonstrate) OR “Add one more finger” (If patient unable to move both arms)**

**3. Altered Level of Consciousness Current RASS level**

**RICHMOND AGITATION-SEDATION SCALE (RASS)**

**STEP**

**1**

**Level of Consciousness Assessment**

**Scale**

**Label**

**Description**

**V O I C E**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **+4** | **COMBATIVE** | **Combative, violent, immediate danger to staff** |  |  |
| **+3** | **VERY AGITATED** | **Pulls to remove tubes or catheters; aggressive** |  |
| **+2** | **AGITATED** | **Frequent non-purposeful movement, fights ventilator** |  |
| **+1** | **RESTLESS** | **Anxious, apprehensive, movements not aggressive** |  |
| **0** | **ALERT & CALM** | **Spontaneously pays attention to caregiver** |  |
| **-1** | **DROWSY** | **Not fully alert, but has sustained awakening to voice (eye opening & contact >10 sec)** |  |
| **-2** | **LIGHT SEDATION** | **Briefly awakens to voice (eyes open & contact <10 sec)** |  |
| **-3** | **MODERATE SEDATION** | **Movement or eye opening to voice (no eye contact)** |  |  |  |

**If RASS is ≥ -3 proceed to CAM-ICU (Is patient CAM-ICU positive or negative?)**

T O U C H

|  |  |  |
| --- | --- | --- |
| **-4** | **DEEP SEDATION** | **No response to voice, but movement or eye opening** |
| **-5** | **UNAROUSABLE** | **to physical stimulation****No response to voice or physical stimulation** |

**If RASS is -4 or -5** � **STOP (patient unconscious), RECHECK later**

Sessler, et al., Am J Repir Crit Care Med 2002, 166: 1338-1344 Ely, et al., JAMA 2003; 286, 2983-2991



**CLINICAL INSTITUTE WITHDRAWAL ASSESSMENT FOR ALCOHOL (CIWA)**

addressograph

**Client/Patient Name**:

**Health Record #**: Date (dd/mm/yyyy):

|  |  |
| --- | --- |
| **NAUSEA & VOMITING**: Ask “do you feel sick to your stomach?” Have you vomited?” Observation.0 No nausea/vomiting 1234 Intermittent nausea with dry heaves 567 constant nausea, frequent dry heaves & vomiting**score score score score** | **TACTILE DISTURBANCES:** Ask: “have you any itching, pins and needles sensations, any burning, any numbness or do you feel bugs crawling on or under your skin?” Observation.1. None
2. Very mild itching, pins and needles, burning or numbness.
3. Mild itching pins and needles, burning or numbness
4. Moderate pins and needles, burning or numbness.
5. Moderately severe hallucinations
6. Severe hallucinations
7. Extremely severe hallucinations
8. Continuous hallucinations
 |
| **TREMOR:** Arms extended and fingers spread apart. Observation.1. No tremor
2. Not visible, but can be felt fingertip to fingertip 2

34 moderate, with patient’s arms extended 567 severe, even with arms not extended | **AUDITORY DISTURBANCES:** Ask: “are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing you? Are you hearing things you know are not there? Observation.1. not present
2. very mild harshness or ability to frighten
3. mild harshness or ability to frighten
4. moderate mild harshness or ability to frighten
5. moderately severe hallucinations
6. severe hallucinations
7. extremely severe hallucinations
8. continuous hallucinations
 |
| **PAROXYSMAL SWEATS:**1. no sweat visible
2. barely perceptible sweating, palms moist 2

34 beads of sweat obvious on forehead 567 acute panic as seen in severe delirium or acute schizophrenic reactions | **VISUAL DISTURBANCES:** Ask: “does the light appear to be too bright? Is its color different? Does does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?” Observation.1. not present
2. very mild sensitivity
3. mild sensitivity
4. moderate sensitivity
5. moderately sever hallucinations
6. severe hallucinations
7. extremely severe hallucinations
8. continuous hallucinations
 |
| **ANXIETY:** Ask “do you feel nervous?”1. no anxiety, at ease.
2. Mildly anxious 2

34 Moderately anxious, or guarded, so anxiety is inferred. 567 acute panic as seen in severe delirium or acute schizophrenic reactions | **HEADACHE, FULLNESS IN HEAD:** Ask: “does your head feel different? Does it feel like there is a band around your head?” Do not rate for dizziness or lightheadedness.Otherwise, rate severity.1. note present
2. very mild
3. mild
4. moderate
5. moderately severe
6. severe
7. very severe
8. extremely severe
 |
| **AGITATION:** observation.1. Normal activity
2. somewhat more than normal activity 2

34 moderately fidgety and restless 567 paces back and forth during most interview, or constantly thrashes about | **ORIENTATION & CLOUDING OF SENSORIUM:** Ask: “Whatday is this? Where are you? Who am I?”1. oriented and can do serial additions.
2. Cannot do serial additions or is uncertain about date
3. Disoriented for date by no more than 2 calendar days
4. Disoriented for date by more than 2 calendar days
5. Disoriented for place and/or person
 |

Time: Total Score (max score=67) Temp: B/P: /\_ Apex rate: Resps: Initials:\_

Time: Total Score (max score=67) Temp: B/P: /\_ Apex rate: Resps: Initials:\_

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Revised as of May 2001

**GUIDELINES**

Take the scale with you when assessing the client.

Explain the procedure to the client-the frequency of assessment and the outcomes-ie: the need to adjust medication based on scoring.

Ask if there are any questions and take time to answer the questions.

If necessary, attend to comfort measures for the client before starting the assessment.

Take the vital signs. These are not factored into the overall scoring but they provide important clinical information. Slight elevation of these signs are common.

Ask each question as it appears on the CIWA-Ar and assign a score to each item. Add up the number of points and assign total score.

Inform the client of the outcome of the assessment. Inform them of what to expect next. Will they receive medication? Supportive care

Provide comfort measures at the end of the process. Offer fluids, light meals, blankets, dry clothing. Offer reassurance and positive support.

If indicated and ordered, administer the medication as soon as possible after the assessment to maximize the loading potential of the benzodiazepines and to respond promptly to client needs.

**When to start the CIWA-Ar:**

What the clients history indicated a likelihood of withdrawal reaction-large amounts over a long period of time, history of withdrawal symptoms, last drink within the past 12 hours.

If history not evident, observe informally until symptoms occur-not all people develop withdrawal symptoms.

**When to stop the CIWA-Ar:**

When the score is <10 after three consecutive assessments-this time may vary with individuals clients. Continue to monitory informally to ensure there is not a re-emergence of symptoms.

**Important points to remember:**

In the first hours of assessment or if the withdrawal is moderate to severe, always awaken the client for the assessment. Severe withdrawal symptoms can be exhibited upon wakening

Maintain eye contact when asking questions

Speak slowly and clearly; reword questions, if necessary

Do not verbally contradict when the client tells you. Adjust the score based on the subjective and objective signs and symptoms.

Give positive feedback as much as possible.

*For CIWA score of =>10. Loading protocol will not prevent seizures in patients taking large doses of benzodiazepines or barbiturates in addition to alcohol.*

*CIWA-Ar protocol and pharmacological orders must be written by a physician on the physicians order sheet.*

***Basic Protocol***

*Diazepam 20 mg PO q 1-2 H until symptoms abate (Some inpatients require several hundred milligrams) Observe for 1-2 hours after last dose*

*Take-home medication is generally not required; if take-home diazepam is necessary, give no more than 2-3 10 mg*

***If history of withdrawal seizures:***

*Diazepam 20 mg q1H for a* ***minimum*** *of three doses*

***If cannot tolerate oral diazepam:***

*Diazepam 2-5 mg IV/min - maximum 10-20 mg q1H; or lorazepam SL*

***If severe liver disease, severe asthma or respiratory failure:***

*Lorazepam SL, PO 1-2 mg tid-qid OR*

*Oxazepam 15-30 mg PO tid-qid*

***If hallucinosis:***

*Haloperidol 2-5 mg IM/PO q1-4 H - max. 5/day*

*\* haloperidol lowers seizure threshold. Use with caution in 1st 3 days; give 3 doses of diazepam 20 mg as seizure prophylaxis.*

***Admit to hospital If:***

*Still in withdrawal after 80 mg or more of diazepam*

*Delirium tremens, recurrent arrhythmias or multiple seizures Medically ill*

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Revised as of May 2001

**OPIOID WITHDRAWAL PROTOCOL**

|  |
| --- |
| **Clinical Features of Opioid Withdrawal****- detected & monitored using the *Opioid Withdrawal Scale* (OWS)** |
| **Physical signs/symptoms** | Lacrimation, rhinorrhea, yawning Dilated pupils, nausea/vomitingDiaphoresis, chills, piloerection, mild tachycardia and/or hypertension Myalgias, abdominal cramps, diarrhea |
| **Psychological symptoms** | Anxiety and dysphoria Craving for opioids Restlessness, insomnia, fatigue |
| **Onset & Duration of Symptoms** |
| Beginning <8 hours from last opioid use (Peak within 36-72h) | Anxiety, fear of withdrawal, craving for drug, diaphoresis, chills, lacrimation, rhinorrhea, yawning |
| Beginning 12 hours from last opioid use (Peak at 72 h) | Piloerection, anorexia, dilated pupils, anxiety, irritability dysphoria, restlessness, mild-moderate insomnia, tremor, mild tachycardia and/or hypertension, abdominal cramps |
| Beginning 24-36 hours from last opioid use (Peak at 72 h) | Abdominal cramps, diarrhea, myalgias, muscle spasms (esp. in lower extremities), nausea, vomiting, diarrhea, severe insomnia, violent yawning |
| **NOTE:*** Methadone withdrawal may take longer to manifest clinically (24-48h from last dose) than withdrawal from other opioids, but may persist 2-3 weeks or longer
* Physical withdrawal symptoms generally resolve by 5-10 days
* Psychological withdrawal symptoms (dysphoria, insomnia) may last weeks to months
 |
| **Complications of Opioid Withdrawal:** |
| * Opioid withdrawal is not life threatening in otherwise healthy individuals. However, the risk of serious medical complications is higher in pregnant women and neonates.
	+ Pregnancy-associated risks: spontaneous abortion, pre-term labour
	+ Neonatal abstinence syndrome: seizures, death if not identified & treated
* There is a serious risk of flight, suicide (precipitated by anxiety, dysphoria), and overdose on relapse (because patients begin to lose their tolerance to opioids within 3-7 days after last use).

**IMPORTANT:*** Continually assess all patients for suicide risk
* Screen for pregnancy
* Warn patients about overdose if they resume opioid use at previous dose.
 |

**Developed by:** 1

**Dr, Peter Butt MD SCFP (EM), Melanie McLeod BSP, ACPR, PharmD Candidate, Christi Becker-Irvine RN**

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| --- |
| **Step 1: Symptomatic Protocol + Clonidine** |
| **Symptomatic Protocol** |  |
| **Target symptoms** | **Drug** | **Dosing guideline** |
| **Nausea and vomiting** | Dimenhydrinate (Gravol) | 50mg-100mg orally (or IM) up to every 4 hours as needed |
| Prochlorperazine (Stemetil) | 5mg-10mg orally up to every 4 hours as needed |
| **Diarrhea** | Loperamide (Imodium) | 4mg orally for diarrhea, then 2mg orally as needed for loose bowel movements (Maximum dose =16mg/24h) |
| **Myalgias** | Acetaminophen (Tylenol) | 325mg-650mg orally every 4 hours as needed (Maximum dose = 4000mg/24h) |
| Naproxen (Naprosyn) | 500mg orally twice daily with meals for 4 days, then reduce to twice daily as needed |
| **Anxiety, dysphoria, lacrimation, rhinorrhea** | Hydroxyzine (Atarax) | 25mg-50mg orally three times daily as needed |
| **Insomnia** | Trazodone (Trazorel) | 50mg-100mg orally at bedtime x 4 days, then as needed for insomnia |
| **Clonidine** |
| **Dose** | **Monitoring** |
| Clonidine 0.1mg oral test dose | * Check blood pressure (BP) one hour later. If BP<90/60, if marked postural hypotension occurs or if HR<60- do not prescribe further
 |
| **If <91kg (or <200lbs):*** Clonidine 0.1mg orally 4 times daily x 4 days
* Clonidine 0.05mg orally 4 times daily x 2 days
* Clonidine 0.025mg orally 4 times daily x 2 days, then stop

**If >91kg (or >200lbs):*** Clonidine 0.2mg orally 4 times daily x 4 days
* Clonidine 0.1mg orally 4 times daily x 2 days
* Clonidine 0.05mg orally 4 times daily x 1 day,
* Clonidine 0.025mg orally 4 times daily for 1 day, then stop
 | * Check BP prior to each dose and withhold dose if BP<90/60, if marked postural hypotension or dizziness occurs or if HR<60

**Assess Opioid Withdrawal Score (OWS) at least every 24 hours:*** **If after 24 hours the OWS is 10-14** (suggesting moderate withdrawal symptoms)- **proceed to step 2**
* **If after 24 hours, the OWS is >15** (suggesting severe withdrawal symptoms)- **proceed to step 3**
 |

**Developed by:** 2

**Dr, Peter Butt MD SCFP (EM), Melanie McLeod BSP, ACPR, PharmD Candidate, Christi Becker-Irvine RN**

|  |
| --- |
| **Step 2: Symptomatic Protocol + Intensified Clonidine** |
| **Intensified Clonidine** |  |
| **Dose** | **Monitoring** |
| **If <91kg (or <200lbs):*** Clonidine 0.2mg orally 4 times daily x 4 days
* Clonidine 0.1mg orally 4 times daily x 2 days
* Clonidine 0.05mg orally 4 times daily x 1 day
* Clonidine 0.025mg orally 4 times daily for 1 day, then stop

**If >91kg (or >200lbs):*** Clonidine 0.3mg orally 4 times daily x 4 days
* Clonidine 0.2mg orally 4 times daily x 1 day
* Clonidine 0.1mg orally 4 times daily x 1 day,
* Clonidine 0.05mg orally 4 times daily x 1 day
* Clonidine 0.025mg orally 4 times daily for 1 day, then stop.
 | * Check BP prior to each dose and withhold dose if BP<90/60, if marked postural hypotension or dizziness occurs or if HR<60

**Assess Opioid Withdrawal Score (OWS) at least every 24 hours:*** + **If after 24 hours at step 2, the OWS is >15** (suggesting severe withdrawal symptoms)- **proceed to step 3**
 |

|  |
| --- |
| **Step 3: Symptomatic Protocol + Intensified Clonidine + Phenobarbital** |
| **Intensified Clonidine + Phenobarbital** |  |
| **Clonidine dose** | **Monitoring** |
| **If <91kg (or <200lbs):*** Clonidine 0.2mg orally 4 times daily x 4 days
* Clonidine 0.1mg orally 4 times daily x 2 days
* Clonidine 0.05mg orally 4 times daily x 1 day
* Clonidine 0.025mg orally 4 times daily for 1 day, then stop

**If >91kg (or >200lbs):*** Clonidine 0.3mg orally 4 times daily x 4 days
* Clonidine 0.2mg orally 4 times daily x 1 day
* Clonidine 0.1mg orally 4 times daily x 1 day,
* Clonidine 0.05mg orally 4 times daily x 1 day
* Clonidine 0.025mg orally 4 times daily for 1 day then stop.
 | * Check BP prior to each dose and withhold dose if BP<90/60, if marked postural hypotension occurs or if HR<60
* **Assess Opioid Withdrawal Score (OWS) at least every 24 hours**
 |
| **Phenobarbital dose:** | **Monitoring** |
| Phenobarbital 30mg-60mg orally twice daily as needed for anxiety and sedation | * Hold dose in presence of marked sedation, hypotension (BP<90/60), dizziness, ataxia, listlessness
* Stop if rash develops
 |
| **Step 4: Refer to a methadone prescribing physician** |
| - **Methadone 10mg orally 3 times daily for 3-4 days, then taper by 10mg/day (5mg/day on final day).** |

**Developed by:** 3

**Dr, Peter Butt MD SCFP (EM), Melanie McLeod BSP, ACPR, PharmD Candidate, Christi Becker-Irvine RN**

- **NOTE: Methadone-related deaths have occurred almost exclusively at doses in excess of 30mg/day10**

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**Developed by:** 4

**Dr, Peter Butt MD SCFP (EM), Melanie McLeod BSP, ACPR, PharmD Candidate, Christi Becker-Irvine RN**

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**Clinical Opiate Withdrawal Scale (COWS)**

***Flowsheet for measuring symptoms over a period of time during buprenorphine induction.***

For each item, write in the number that best describes the patient’s signs or symptom. Rate on just the apparent relationship to opiate withdrawal.

*For example*: If heart rate is increased because the patient was jogging just prior to assessment, the increased pulse rate would not add to the score.

|  |
| --- |
| Patient Name: Date: Buprenorphine Induction:  |
| Enter scores at time zero, 30 minutes after first dose, 2 hours after first dose, etc. Times of Observation: |  |  |  |  |
| ***Resting Pulse Rate: Record Beats per Minute*** |  |  |  |  |  |
| Measured after patient is sitting or lying for one minute0 = pulse rate 80 or below • 2 = pulse rate 101-1201 = pulse rate 81-100 • 4 = pulse rate greater than 120 |
| ***Sweating: Over Past 1/2 Hour not Accounted for by Room Temperature or Patient Activity*** |  |  |  |  |  |
| 0 = no report of chills or flushing • 3 = beads of sweat on brow or face 1 = subjective report of chills or flushing • 4 = sweat streaming off face2 = flushed or observable moistness on face |
| ***Restlessness Observation During Assessment*** |  |  |  |  |  |
| 0 = able to sit still • 3 = frequent shifting or extraneous movements of legs/arms 1 = reports difficulty sitting still, but is able to do so • 5 = Unable to sit still for more than a few seconds |
| ***Pupil Size*** |  |  |  |  |  |
| 0 = pupils pinned or normal size for room light • 2 = pupils moderately dilated1 = pupils possibly larger than normal for room light • 5 = pupils so dilated that only the rim of the iris is visible |
| ***Bone or Joint Aches if Patient was Having Pain Previously,******only the Additional Component Attributed to Opiate Withdrawal is Scored*** |  |  |  |  |  |
| 0 = not present • 2 = patient reports severe diffuse aching of joints/muscles1 = mild diffuse discomfort • 4 = patient is rubbing joints or muscles and is unable to sit still because of discomfort |
| ***Runny Nose or Tearing Not Accounted for by Cold Symptoms or Allergies*** |  |  |  |  |  |
| 0 = not present • 2 = nose running or tearing1 = nasal stuffiness or unusually moist eyes • 4 = nose constantly running or tears streaming down cheeks |
| ***GI Upset: Over Last 1/2 Hour*** |  |  |  |  |  |
| 0 = no GI symptoms • 3 = vomiting or diarrhea1 = stomach cramps • 5 = multiple episodes of diarrhea or vomiting 2 = nausea or loose stool |
| ***Tremor Observation of Outstretched Hands*** |  |  |  |  |  |
| 0 = no tremor • 2 = slight tremor observable1 = tremor can be felt, but not observed • 4 = gross tremor or muscle twitching |
| ***Yawning Observation During Assessment*** |  |  |  |  |  |
| 0 = no yawning • 2 = yawning three or more times during assessment 1 = yawning once or twice during assessment • 4 = yawning several times/minute |
| ***Anxiety or Irritability*** |  |  |  |  |  |
| 0 = none • 2 = patient obviously irritable/anxious1 = patient reports increasing irritability or anxiousness • 4 = patient so irritable or anxious that participationin the assessment is difficult |
| ***Gooseflesh Skin*** |  |  |  |  |  |
| 0 = skin is smooth • 5 = prominent piloerection 3 = piloerection of skin can be felt or hairs standing up on arms |
| ***Score***: | 5-12 = Mild | Total score |  |  |  |  |
| 13-24 = Moderate25-36 = Moderately SevereMore than 36 = Severe Withdrawal |
| Observer’s initials |  |  |  |  |

The National Alliance of Advocates for Buprenorphine Treatment

PO Box 333 • Farmington, CT 06034 • MakeContact@naabt.org

naabt.org

\*Source: Wesson et al. 1999.

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##### The National Alliance of Advocates for Buprenorphine Treatment

***Precipitated Withdrawal. What it is. How to avoid it.***

What Is Precipitated Withdrawal?

*It is a rapid and intense onset of withdrawal symptoms initiated by a medication.* In the

case of Buprenorphine, because it has a higher binding strength at the opioid receptor, it competes for the receptor, “kicks off” and replaces existing opioids. If a significant amount of opioids are expelled from the receptors and replaced, the opioid physically dependent patient will feel the rapid loss of the opioid effect, initiating withdrawal symptoms.

More precisely, precipitated

withdrawal can occur when an

of Buprenorphine at the

µ-receptor, the partial agonist displaces full agonist opioids from the µ-receptors, but activates the receptor to a *lesser* degree than full agonists which results in a net *decrease* in agonist effect, thereby precipitating withdrawal.1

A common misconception is that the naloxone in the buprenorphine/naloxone combination medication

initiates precipitated withdrawal. Naloxone may only initiate withdrawal if *injected* into

antagonist (or partial agonist, such as Buprenorphine) is administered to a patient who

**Full Agonist Opioid.**

**Perfect receptor fit. Maximum intrinsic activity (opiate effect).**

**Partial Agonist Opioid**

**(Buprenorphine). Imperfect Fit. Less intrinsic activity (opiate effect).**

a person physically dependent

on opioids. Taken sublingually, as directed, naloxone is clinically

is physically dependent on full agonist opioids. Due to the high *affinity* but low *intrinsic activity*

Avoiding Precipitated Withdrawal

**Short-acting Opioids**

insignificant and has virtually no effect. (Except in rare cases of an

allergic reaction or naloxone hypersensitivity.2)

Patients transferring from methadone or

Patient education and developing realistic expectations are essential before beginning treatment.

To avoid precipitated withdrawal, physically dependent patients must no longer be experiencing the agonist effects of an opioid. One way to gauge this is to observe objective symptoms of withdrawal sufficient to score a minimum of 5 to 6 on the COWS (Clinical Opioid Withdrawal Scale). Scores of >10 are preferable. Due to patient individuality, required abstinent times may vary considerably from patient to patient. Only use the time since last use as an estimate to anticipate the onset of withdrawal symptoms.4

The induction begins by assessing

last use of all opioids, short and long acting, objective and subjective symptoms and a COWS score calculation. If not in sufficient withdrawal (mild to moderate: COWS of

5 to 24), it is in the patient’s best interest to wait. Long-acting opioids will require a longer period of abstinence, than short-acting opioids.

***(Heroin, Crushed OxyContin®, Percocet®, Vicodin®, Oxycodone and others)***

Prior to induction, patients must abstain from all short-acting opioids for 12 to 24 hours ***and/or*** have objective withdrawal symptoms sufficient to produce a score of 5 to 24 on the COWS.1

**Long-acting Opioids**

***OxyContin® (Taken Orally)***

Discontinue use for at least 24 hours prior to induction. A minimal score of at least 5 on the COWS is recommended, although

some physicians prefer scores of 15 or higher.5

***Methadone***

It is recommended that patients transitioning from methadone to Buprenorphine slowly taper to 30 mg./day of methadone, for at least one week. Last dose must be no less than 36 hours prior to induction, and may be 96 hours or more. A minimal score of

at least 5 on the COWS is recommended, although some physicians prefer scores of 15 or higher.5

another long-acting opioid to Buprenorphine may experience discomfort for several days and dysphoria for up to 2 weeks.3

The goal of induction is to safely suppress opioid withdrawal as rapidly as possible with adequate doses of Buprenorphine. Failure to do so may cause patients to use opioids or other medications to alleviate opioid withdrawal symptoms or may lead to early treatment dropout.3 To achieve this, some physicians have found they may need to dose as high as 32 mgs. the first day with some methadone to Buprenorphine transfers.5

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