University of Michigan Alcohol Withdrawal Guidelines Overview

The following document contains the University of Michigan Alcohol Withdrawal Guidelines. These guidelines were developed through an intensive collaborative effort by physicians and nurses representing all medical and surgical sub-specialties within the institution. The guidelines are intended to be applied to adult patients (18 years of age or older) experiencing alcohol withdrawal.

If consultation is needed to provide care for a patient in alcohol withdrawal, please contact the General Medicine Consult Attending (pager #31610). Please direct questions regarding the guidelines' content or format to Dr. Michael Lukela (e-mail: mlukela@umich.edu; pager #11006) or Dr. Satyen Nichani (e-mail: satyen@umich.edu; pager #15612).

A brief synopsis of the guidelines' content is provided below. It is strongly recommended that these documents be reviewed in the order they are presented.

The **Alcohol Withdrawal Guidelines Flowsheet** (#1 below) provides a flow diagram that depicts the algorithm used for treating alcohol withdrawal. It begins with the selection of the appropriate alcohol withdrawal protocol (e.g. mild/moderate or severe) following assessment by the clinician. Clinicians are then directed through the guidelines via a flowchart that outlines the frequency of assessment and recommendations for treatment.

The Michigan Alcohol Withdrawal Severity (MAWS) Assessment Scale (#2 below) is the scoring scale used by nurses to develop a MAWS score. The MAWS score is used to determine withdrawal severity and to consistently guide further assessment and therapy.

Clinician Instructions (#3 below) consist of a written description of the alcohol withdrawal guidelines flowsheet, including recommended dosing parameters for medications used within the guidelines. In addition, recommended dosing instructions/guidelines are provided for patients requiring maintenance (i.e. scheduled) therapy during treatment of their withdrawal.

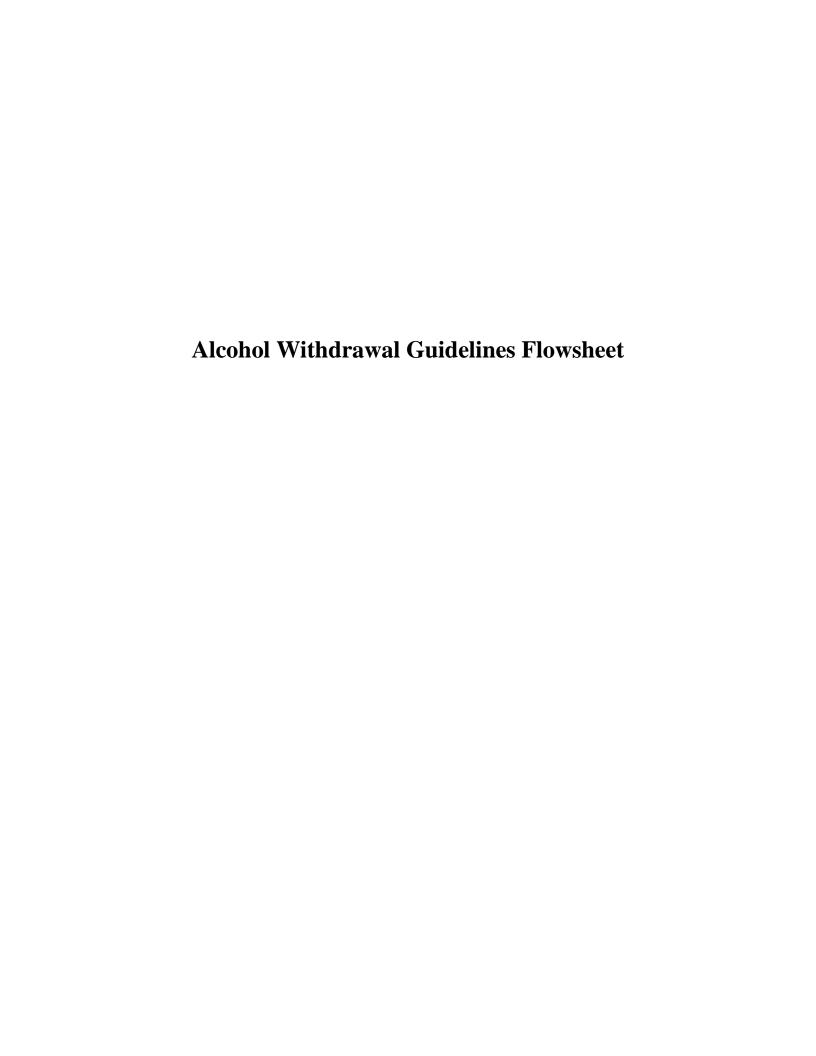
Nursing Instructions (#4 below) consists of a written description of the alcohol withdrawal guidelines flowsheet assessment strategy used by the nurses to implement the appropriate monitoring and therapies as directed by the guidelines.

Nursing Flowsheet (#5 below) is the template used by nurses to monitor and track MAWS scores, vital signs, and medications used during the treatment of a patient in alcohol withdrawal.

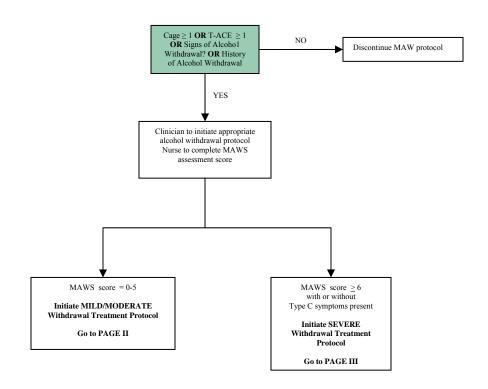
CareLink Order Sets (#6 below) provide a written description, including "screen shots" that detail the process of using CareLink to order different components of the guidelines.

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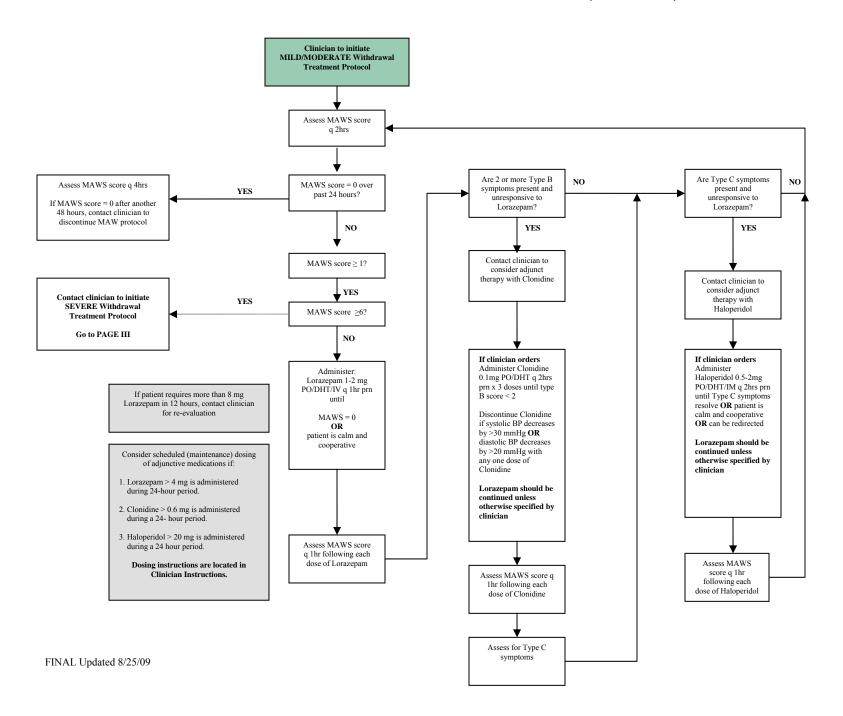
1)	Alcohol Withdrawal Flowsheet	(Pages 2-5)
2)	Michigan Alcohol Withdrawal Severity (MAWS) Assessment Scale	(Pages 6-7)
3)	Clinician Instructions	(Pages 8-13)
4)	Nursing Instructions	(Pages 14-17)
5)	Nursing Flowsheet	(Pages 18-19)
6)	CareLink Order Sets	(Pages 20-28)



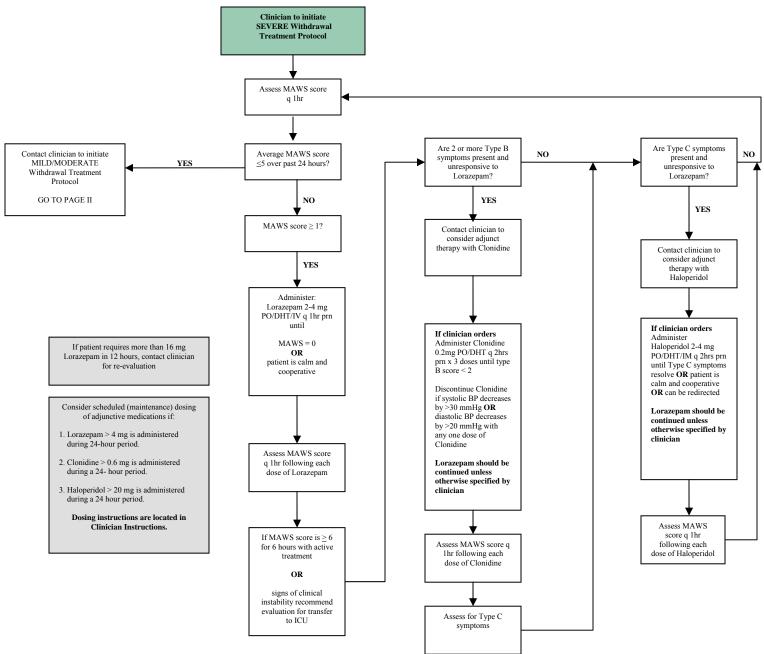
ADULT Michigan Alcohol Withdrawal (MAW) Guidelines INITIAL ASSESSMENT (PAGE I)



ADULT Michigan Alcohol Withdrawal Guidelines MILD-MODERATE Withdrawal (PAGE II)

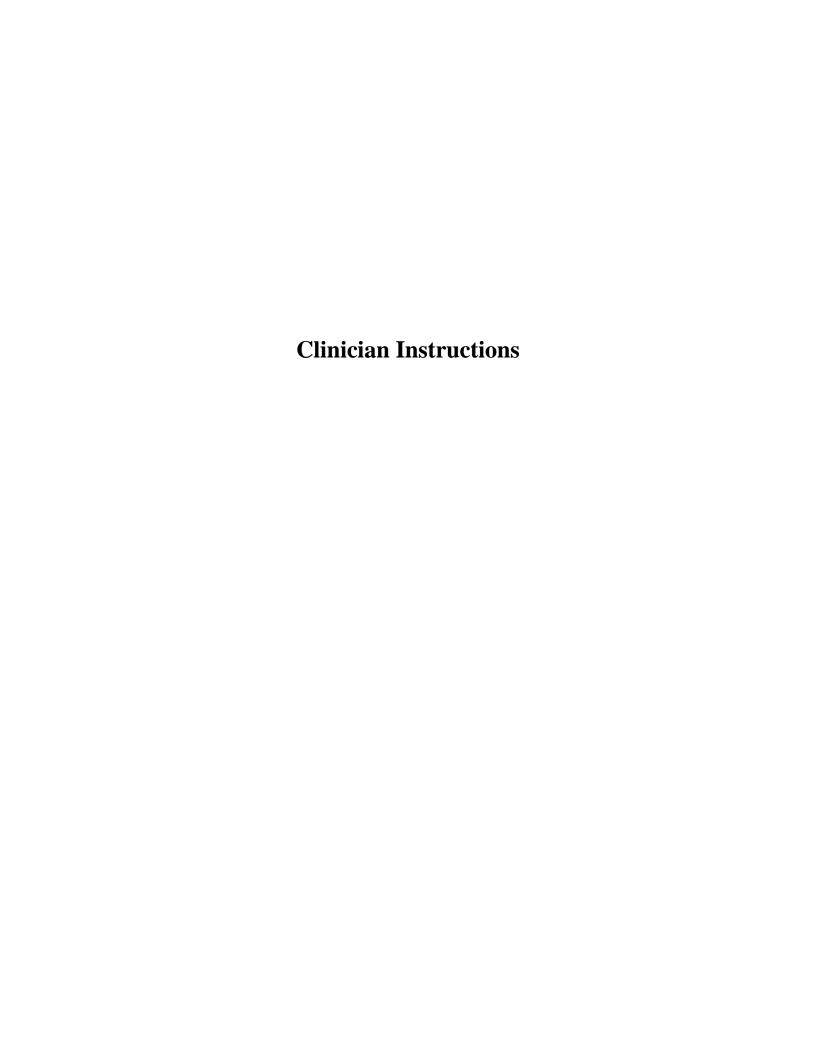


ADULT Michigan Alcohol Withdrawal Guidelines SEVERE Withdrawal (Page III)



Michigan Alcohol Withdrawal Severity (MAWS) Assessment Scale

ADULT MICHIGAN ALCOHOL WI	THDRAWAL SEVERITY (MAWS) ASSESSMENT SCALE
Type A Symptoms (CNS Excitation)	Does patient appear
a. Anxious or nervous	If MAWS score ≥ 1 , administer lorazepam as ordered q 1hr prn until MAWS score = 0
b. Restless	OR patient is calm and cooperative.
c. Bothered by bright light	Continue to assess patient every 1-2 hours per protocol.
d. Bothered by sounds	7
Assign one point for each symptom group (a-d), maximum points: 4	
Type B Symptoms (Adrenergic Hyperactivity)	Does patient have
e. Nausea or vomiting	If MAWS score is ≥ 2 with presence of 2 or more Type B symptoms not responsive to
f. Tremor visible with or without arms extended	lorazepam, contact clinician to consider adjunct therapy with clonidine.
g. Sweat visible on palms or forehead	7
h. SBP ↑ 30mmHg over baseline or >170mmHg OR	If clinician orders administer clonidine as ordered q 2hr prn x 3 doses until type B score
DBP ↑ 20mmHg over baseline or >100mmHg	< 2. Discontinue clonidine if systolic BP decreases by >30 OR diastolic BP decreases by
i. Heart rate > 110	>20 with any one dose.
Assign one point for each symptom group (e-i), maximum points: 5	Lorazepam should be continued if MAWS > 1 unless otherwise specified by clinician
	cute change from baseline** Does the patient demonstrate
j. Inappropriate behavior AND cannot be redirected OR	**Assess for history of dementia to identify any baseline patient behavioral
k. Disinhibited AND cannot be redirected	characteristics that may be misclassified as Type C symptoms.
OR	
l. Disoriented - cannot state name, date, where they are,	<u>List baseline characteristics here:</u>
how long hospitalized	
OR VIII is a second of the sec	
m. Hallucinations (auditory, tactile, and/or visual) AND	
cannot be redirected	
Max points: 1	If MAWS score ≥1 with presence of Type C symptoms not responsive to lorazepam,
wax points. 1	contact clinician to consider adjunct therapy with haloperidol.
	contact entiretain to consider adjunct incrupy with hatoperidor.
	If clinician orders administer haloperidol as ordered q 2hr prn until Type C symptoms
	resolve OR patient is calm and cooperative OR can be redirected.
*Note: although patients may have more than one Type C	
symptom, the total maximum points assigned for scoring is 1.	Lorazepam should be continued if MAWS > 1 unless otherwise specified by clinician
Michigan Alcohol Withdrawal Severity (MAWS) Score	
(Sum of Type A, B, C scores (maximum of 10 points))	



ADULT Michigan Alcohol Withdrawal Guidelines Updated 8/25/09

GENERAL THERAPY RECOMMENDATIONS

The guidelines are intended to be applied to adult patients (18 years of age or older) experiencing alcohol withdrawal. Treatment of alcohol withdrawal with Lorazepam is considered first-line therapy. Clonidine and/or Haloperidol may be considered as <u>adjunctive</u> therapy. Lorazepam should continue if adjunctive therapy is initiated unless specifically directed otherwise by the patient's clinician.

Michigan Alcohol Withdrawal Severity (MAWS) score of \geq 6, indicates SEVERE alcohol withdrawal. Otherwise, patients may be treated using the MILD-MODERATE treatment protocol.

Withdrawal Severity

Total score of ≤ 1 is no or minimal withdrawal Total score of 2-5 is mild to moderate withdrawal Total score of ≥ 6 is severe withdrawal

Consider consultation from General Medicine (General Medicine Attending pager #31610) to assist in management of patients in alcohol withdrawal not responsive to conventional therapy or inability to use lorazepam for initial therapy.

SUGGESTED DRUG WITHHOLDING CLINICAL PARAMETERS

1. Lorazepam:

- a. Sedation score > 2 (out of 4); Respiratory Rate < 10; Oxygen saturation < 90%.
- b. Generally considered safe for use during pregnancy; use with caution during first trimester.

2. Clonidine:

- a. Systolic BP < 130; Diastolic BP < 70 mmHg; Heart Rate < 60 beats per minute.
- b. Generally considered safe for use during pregnancy; use with caution during first trimester.

3. Haloperidol:

- a. Sedation score > 2 (out of 4); Respiratory Rate < 10; Oxygen saturation < 90%.
- b. If duration of Haloperidol use exceeds 48 hours, recommend repeat EKG to monitor QTc interval. c. Consider avoiding further use of Haloperidol if QTc interval > 450 ms.
- d. Consider avoiding Haloperidol use in patients with Parkinson's disease or African American race (given increased risk of tardive dyskinesia).
- e. Generally considered safe for use during pregnancy; **avoid** administration of Haloperidol during first trimester of pregnancy.

ADULT Michigan Alcohol Withdrawal Guidelines Updated 8/25/09

MILD or MODERATE ALCOHOL WITHDRAWAL

(MAWS Assessment Scale score between 0 and 5)

- 1. Clinician to order and review baseline EKG.
- 2. If patient has MAWS Assessment Scale score between 1 and 5, nurse to administer Lorazepam 1-2 mg PO/DHT/IV every 1 hr prn until MAWS Assessment Scale score is 0 **OR** patient is calm and cooperative.
- 3. If patient requires ≥ 8 mg Lorazepam in 12 hours, nurse to contact clinician for re-evaluation.
 - a. If contacted by nursing, clinician may continue therapy with current guidelines, supplement with additional dose(s) of Lorazepam, or escalate to SEVERE withdrawal guidelines.
 - b. If patient required ≥ 4mg of Lorazepam during a 24-hour period, initiate scheduled Lorazepam every 6 hrs [see Maintenance Recommendations: Lorazepam].
- 4. If patient has no symptoms after 24 hrs from last Lorazepam dose (MAWS Assessment Scale score is 0), frequency of assessment will decrease to every 4 hrs until 48 hours **OR** discharge.
- 5. If patient continues to have 2 or more **TYPE B** symptoms present on the MAWS Assessment Scale that are not responsive to Lorazepam, clinician to consider **adjunctive** therapy with Clonidine.
 - a. Evaluate patient to rule out contributing factors (e.g. hypoglycemia, electrolyte abnormality, dehydration, cardiac problems, etc.).
 - b. Dosing of Clonidine is 0.1mg PO/DHT every 2 hrs to a maximum of 3 doses (0.3 mg total) to achieve Type B score < 2.
 - c. Discontinue Clonidine if systolic blood pressure (SBP) decreases by > 30 mmHg **OR** diastolic blood pressure (DBP) decreases by > 20 mmHg with any **one** dose of Clonidine.
 - d. If patient required ≥ 0.6 mg Clonidine during a 24-hour period, initiate scheduled Clonidine 0.1 mg every 6 hrs [see **Maintenance Recommendations: Clonidine**].
- 6. If patient continues to have <u>clinically significant</u> **TYPE** C symptoms present on the MAWS Assessment Scale that are not responsive to Lorazepam, clinician to consider <u>adjunctive</u> therapy with Haloperidol.
 - a. Evaluate patient to rule out contributing factors (e.g. hypoglycemia, electrolyte abnormality, dehydration, cardiac problems, etc.). Consider avoiding the use of Haloperidol in patients with Parkinson's disease and/or African American race.
 - b. Dosing of Haloperidol is 0.5-2 mg PO/DHT/IM every 2 hours until **TYPE C** symptoms resolve **OR** patient is calm and cooperative **OR** can be redirected.
 - c. Nurse to monitor patient every 1 hr following each dose of Haloperidol and contact clinician if patient develops fever, new hypertension, dystonic reaction, or fails to respond to Haloperidol.
 - d. If patient required ≥ 20mg of Haloperidol in past 24 hour period, initiate scheduled Haloperidol [see Maintenance Recommendations: Haloperidol]
- 7. If patient has MAWS Assessment Scale ≥ 6 (SEVERE withdrawal), following multi-disciplinary team evaluation, transfer to telemetry bed. Initiate guidelines for SEVERE withdrawal with new order set (see instructions on CareLink Order Sets). Consider evaluation for transfer to ICU if MAWS Assessment Scale ≥ 6 following 6 hours of therapy **OR** signs of clinical instability (e.g. SBP <85 or >185; HR >125; RR > 30; inability to protect airway).

ADULT Michigan Alcohol Withdrawal Guidelines Updated 8/25/09

SEVERE ALCOHOL WITHDRAWAL

(MAWS Assessment Scale score > 6)

- 1. Admit to telemetry bed or ICU. Consider evaluation for transfer to ICU if MAWS Assessment Scale ≥ 6 for > 6 hours **OR** clinical instability.
- 2. Clinician to order and review baseline EKG.
- 3. If patient has MAWS Assessment Scale score ≥ 1, nurse to administer Lorazepam 2-4 mg PO/DHT/IV every 1 hr prn until MAWS Assessment Scale score <1 **OR** patient is calm and cooperative.
- 4. If patient requires > 16 mg Lorazepam in 12 hours, nurse to contact clinician for re-evaluation.
 - a. If contacted by nursing, clinician may continue therapy with current guidelines, supplement with additional dose(s) of Lorazepam, or evaluate for transfer to ICU.
- 5. If patient continues to have 2 or more **TYPE B** symptoms present on the MAWS Assessment Scale that are not responsive to Lorazepam, physician to consider <u>adjunctive</u> therapy with Clonidine. Nurse to assess patient using MAWS Assessment Scale every 1 hrs.
 - a. Evaluate patient to rule out contributing factors (e.g. hypoglycemia, electrolyte abnormality, dehydration, cardiac problems, etc.).
 - b. Dosing of Clonidine is 0.1-0.2mg PO/DHT every 2 hrs to a maximum of 3 doses (0.6 mg total) to achieve Type B score < 2.
 - c. Discontinue Clonidine if systolic blood pressure (SBP) decreases by > 30 mmHg **OR** diastolic blood pressure (DBP) decreases by > 20 mmHg with any **one** dose of Clonidine.
 - d. If **TYPE B** symptoms do not respond to Clonidine, clinician may continue therapy with current guidelines, supplement with additional dose(s) of Clonidine, or evaluate for transfer to ICU.
 - e. If patient required ≥ 0.6 mg Clonidine during a 24-hour period, initiate scheduled Clonidine 0.1 mg every 6 hrs [see **Maintenance Recommendations: Clonidine**].
- 6. If patient continues to have <u>clinically significant</u> **TYPE** C symptoms present on the MAWS Assessment Scale that are not responsive to Lorazepam, clinician to consider <u>adjunctive</u> therapy with Haloperidol.
 - a. Evaluate patient to rule out contributing factors (e.g. hypoglycemia, electrolyte abnormality, dehydration, cardiac problems, etc.). Consider avoiding the use of Haloperidol in patients with Parkinson's disease and/or African American race.
 - b. Dosing of Haloperidol is 2-4 mg PO/DHT/IM every 2 hours until **TYPE C** symptoms resolve **OR** patient is calm and cooperative **OR** can be redirected.
 - c. Nurse to monitor patient every 1 hr following each dose of Haloperidol and contact clinician if patient develops fever, new hypertension, dystonic reaction, or fails to respond to Haloperidol.
 - d. If patient required ≥ 20mg of Haloperidol in past 24 hour period, initiate scheduled Haloperidol [see Maintenance Recommendations: Haloperidol]
- 7. If patient has MAWS Assessment Scale \geq 6 (severe withdrawal) following 6 hours of therapy **OR** signs of clinical instability (e.g. SBP <85 or >185; HR >125; RR > 30; inability to protect airway), recommend evaluation for transfer to ICU.
- 8. When patient has stabilized (MAWS Assessment Scale ≤ 5 for a 24 hr period), initiate protocol for MILD-MODERATE withdrawal with new order set (see instructions on CareLink Order Sets).

ADULT Michigan Alcohol Withdrawal Guidelines Updated 8/25/09

MAINTENANCE RECOMMENDATIONS: LORAZEPAM

- 1. If patient required < 4mg of Lorazepam during a 24-hour period, continue Lorazepam 1-2 mg every 1 hr prn until MAWS Assessment Scale score is 0 **OR** patient is calm and cooperative.
- 2. If patient required ≥ 4mg of Lorazepam during a 24-hour period, initiate scheduled Lorazepam at 50% of the previous day's requirement split into 4 divided doses. Doses should be administered every 6 hrs. Continue Lorazepam 1-2mg every 1 hr prn until MAWS Assessment Scale score is 0 **OR** patient is calm and cooperative.
- 3. When patient has stable or decreasing MAWS Assessment Scale score for a 24 hour period (PRN dosing < 4 mg in previous 24 hrs), may begin to taper Lorazepam. During taper, total scheduled Lorazepam dose should be decreased by 25% daily as tolerated and PRN dosing continued.
- 4. Continue MAWS Assessment Scale scoring every 2 hrs during taper. If patient develops signs of withdrawal during taper, increase Lorazepam to prior maintenance dose and do not reattempt tapering until patient has demonstrated stable or decreasing MAWS Assessment Scale score for a 24-hour period.

MAINTENANCE RECOMMENDATIONS: CLONIDINE

- 1. If patient required < 0.6 mg Clonidine during a 24-hour period, continue Clonidine 0.1 mg every 6 hrs prn until **TYPE B** score is < 2.
- 2. If patient required ≥ 0.6 mg Clonidine during a 24-hour period, initiate scheduled Clonidine 0.1 mg every 6 hrs.
- 3. Discontinue Clonidine if systolic blood pressure (SBP) decreases by > 30 mmHg **OR** diastolic blood pressure (DBP) decreases by > 20 mmHg with any <u>one</u> dose of Clonidine and contact physician.
- 4. When patient has stable or decreasing **TYPE B** score for a 24-hour period, may begin to taper Clonidine. To initiate taper, increase dosing interval of Clonidine to 0.1 mg every <u>8 hours</u> for a 24-hour period.
- 5. To continue taper, if patient remains with stable or decreasing **TYPE B** score for a 24-hour period, increase dosing interval of Clonidine to 0.1 mg every **12 hours** for a 24-hour period.
- 6. To continue taper, if patient remains with stable or decreasing **TYPE B** score for a 24-hour period, increase dosing interval of Clonidine to 0.1 mg every **24 hours** for a 24-hour period.
- 7. Clonidine may be discontinued when patient's **TYPE B** score is < 2. If patient develops signs of withdrawal during taper (i.e. an increase in **TYPE B** symptoms), increase Clonidine to prior maintenance dose and do not reattempt tapering until patient has demonstrated stable or decreasing **TYPE B** score for a 24-hour period.

ADULT Michigan Alcohol Withdrawal Guidelines Updated 8/25/09

MAINTENANCE RECOMMENDATIONS: <u>HALOPERIDOL</u>

- 1. If patient required < 20 mg of Haloperidol during a 24-hour period, continue Haloperidol 0.5-2 mg every 2 hrs prn. Continue monitoring every 2 hours until **TYPE C** score is 0 **OR** patient is calm and cooperative **OR** can be redirected.
- 2. If patient required ≥ 20mg of Haloperidol in past 24 hour period, begin scheduled Haloperidol at 50% of the previous day's total requirement split into 4 divided doses administered every 6 hrs. Continue Haloperidol 0.5-2 mg every 2 hrs prn until **TYPE** C score is 0 **OR** patient is calm and cooperative **OR** can be redirected.
- 3. When patient has stable or decreasing **TYPE** C score for a 24-hour period, may begin to taper Haloperidol. To initiate taper, reduce Haloperidol dose by 25% daily as tolerated. Continue prior PRN dosing.
- 4. Continue MAWS Assessment Scale scoring every 2 hrs during taper. If patient develops signs of withdrawal during taper, increase Haloperidol to prior maintenance dose and do not reattempt tapering until patient has demonstrated stable or decreasing **TYPE C** score for a 24-hour period.
- 5. If duration of Haloperidol use exceeds 48 hours, recommend repeat EKG to monitor QTc interval. Consider avoiding further use of Haloperidol if QTc interval > 450 ms.



NURSING INSTRUCTIONS

ADULT Michigan Alcohol Withdrawal Guidelines Updated 6/15/09

GENERAL THERAPY RECOMMENDATIONS

The guidelines are intended to be applied to adult patients (18 years of age or older) experiencing alcohol withdrawal. Treatment of alcohol withdrawal with Lorazepam is considered first-line therapy. Clonidine and/or Haloperidol may be considered as <u>adjunctive</u> therapy. Lorazepam should continue if adjunctive therapy is initiated unless specifically directed otherwise by the patient's clinician.

Michigan Alcohol Withdrawal Severity (MAWS) score of \geq 6 indicates SEVERE alcohol withdrawal. Otherwise, patients may be treated using the MILD-MODERATE treatment protocol.

Withdrawal Severity

Total score of ≤ 1 is no or minimal withdrawal Total score of 2-5 is mild to moderate withdrawal Total score of ≥ 6 is severe withdrawal

CONSIDER WITHHOLDING MEDICATIONS IF:

1. Lorazepam:

- a. Sedation score ≥ 2 (out of 4); Respiratory Rate < 10; Oxygen saturation < 90%.
- b. Generally considered safe for use during pregnancy; use with caution during first trimester.

2. Clonidine:

- a. Systolic BP < 130; Diastolic BP < 70 mmHg; Heart Rate < 60 beats per minute.
- b. Generally considered safe for use during pregnancy; use with caution during first trimester.

3. Haloperidol:

- a. Sedation score > 2 (out of 4); Respiratory Rate < 10; Oxygen saturation < 90%.
- b. If duration of Haloperidol use exceeds 48 hours, recommend repeat EKG to monitor QTc interval. Consider avoiding further use of Haloperidol if QTc interval > 450 ms.
- c. Consider avoiding Haloperidol use in patients with Parkinson's disease and/or African American race (given increased risk of tardive dyskinesia).
- d. Generally considered safe for use during pregnancy; **avoid** administration of Haloperidol during first trimester of pregnancy.

NURSING INSTRUCTIONS

ADULT Michigan Alcohol Withdrawal Guidelines Updated 6/15/09

MILD or MODERATE ALCOHOL WITHDRAWAL

(MAWS Assessment Scale score between 0 and 5)

- 1. Prophylactic vitamin supplements to patients at risk for withdrawal:
 - a. Thiamine 100 mg PO/DHT/IV daily for 7 days.
 - b. Folic acid 1 mg PO/DHT/IV daily for 7 days.
 - c. Multivitamin PO/DHT daily for 7 days.
- 2. Screen patients for alcohol usage.
 - a. Nurse response to question on alcohol usage from admission assessment (FHPA)
 - b. Clinician Administer CAGE questionnaire.
 - c. If CAGE score ≥ 1 or T-ACE ≥ 1 , or patient reports excessive alcohol use, initiate social work, consult for assessment of ETOH cessation counseling during admission/post-discharge.
- 3. Assess patient using MAWS Assessment Scale every 2 hrs. and after each PRN dose of medication (lorazepam, clonidine or haloperidol).
 - a. Include vital signs (heart rate, BP, respiratory rate) and pulse oximetry.
 - b. If patient has MAWS Assessment Scale score between 1 and 5, administer Lorazepam 1-2 mg PO/DHT/IV every 1 hr prn until MAWS Assessment Scale score is 0 **OR** patient is calm and cooperative.
 - c. If patient requires > 8 mg Lorazepam in 12 hours, contact clinician for re-evaluation.
 - d. If patient has no symptoms after 24 hrs from last Lorazepam dose (MAWS Assessment Scale score
 - is 0), decrease frequency of assessment to every 4 hrs for 48 hours then discontinue.
 - e. **If symptoms recur, resume monitoring.** If patient remains on maintenance (scheduled) doses of medication, continue to monitor MAWS Assessment Scale at least every 4 hours.
 - 4. If patient displays 2 or more **TYPE B** symptoms on the MAWS Assessment Scale that are not responsive to Lorazepam, contact clinician to consider **adjunctive** therapy with Clonidine.
 - a. If clinician orders, dosing of Clonidine is 0.1mg PO/DHT every 2 hrs to a maximum of 3 doses (0.3 mg total) to achieve Type B score < 2. If the Type B score remains ≥ 2, contact clinician for further orders.
 - b. Continue MAWS Assessment Scale scoring and patient monitoring every 1 hr following each dose of Clonidine. Discontinue Clonidine if systolic blood pressure (SBP) decreases by > 30 mmHg **OR** diastolic blood pressure (DBP) decreases by > 20 mmHg with any <u>one</u> dose of Clonidine and contact clinician.
 - 5. If patient displays <u>clinically significant</u> Type C symptoms outside patient's baseline level of functioning that are not responsive to Lorazepam, contact clinician to consider <u>adjunctive</u> therapy with Haloperidol. (Clinician must review EKG to assess QT interval prior to ordering haloperidol.)
 - a. If clinician orders, dosing of Haloperidol is 0.5-2 mg PO/DHT/IM every 2 hours until **TYPE** C symptoms resolve **OR** patient is calm and cooperative **OR** can be redirected.
 - b. Continue MAWS Assessment Scale scoring and patient monitoring every 1 hr following each dose of Haloperidol. Contact clinician if patient develops fever, new hypertension, dystonic reaction, or fails to respond to Haloperidol.
 - 6. If patient has MAWS Assessment Scale ≥ 6 (SEVERE withdrawal), contact clinician to consider SEVERE withdrawal protocol and transfer to telemetry bed. Consider evaluation for transfer to ICU if MAWS Assessment Scale ≥ 6 following 6 hours of active treatment **OR** signs of clinical instability (e.g. SBP <85 or >185; HR >125; RR > 30; inability to protect airway). Initiate Rapid Response if patient displays signs of clinical instability.

NURSING INSTRUCTIONS

ADULT Michigan Alcohol Withdrawal Guidelines Updated 6/15/09

SEVERE ALCOHOL WITHDRAWAL

(MAWS Assessment Scale score > 6)

- 1. Prophylactic vitamin supplements to patients at risk for withdrawal:
 - a. Thiamine 100 mg PO/DHT/IV daily for 7 days.
 - b. Folic acid 1 mg PO/DHT/IV daily for 7 days.
 - c. Multivitamin PO/DHT daily for 7 days.
- 2. Screen patients for alcohol usage.
 - a. Nurse response to question on alcohol usage from admission assessment (FHPA)
 - b. Clinician Administer CAGE questionnaire.
 - c. If CAGE score ≥ 1 or T-ACE ≥ 1 , or patient reports excessive alcohol use, initiate social work, consult for assessment of ETOH cessation counseling during admission/post-discharge.
- 3. Assess patient using MAWS Assessment Scale every 1 hrs. Include vital signs (heart rate, BP, respiratory rate) and pulse oximetry.
 - a. If patient has MAWS Assessment Scale score > 1, administer Lorazepam 2-4 mg PO/DHT/IV every 1 hr prn until MAWS Assessment Scale score <1 OR patient is calm and cooperative.
 - b. If patient requires > 16 mg Lorazepam in 12 hours, contact clinician for re-evaluation.
- 4. If patient displays 2 or more TYPE B symptoms on the MAWS Assessment Scale that are not responsive to Lorazepam, contact clinician to consider adjunctive therapy with Clonidine. Continue to assess patient using MAWS Assessment Scale every 1 hrs.
 - a. If clinician orders, dosing of Clonidine is 0.1-0.2mg PO/DHT every 2 hrs to a maximum of 3 doses (0.6 mg total) to achieve Type B score < 2. If the Type B score remains > 2, contact clinician for further orders.
 - b. Continue MAWS Assessment Scale scoring and blood pressure monitoring every 1 hr following each dose of Clonidine. Discontinue Clonidine if systolic blood pressure (SBP) decreases by > 30 mmHg OR diastolic blood pressure (DBP) decreases by > 20 mmHg with any one dose of Clonidine and contact clinician.
 - c. If TYPE B symptoms do not respond to Clonidine, contact clinician. Consider evaluation for transfer to ICU.
 - 5. If patient displays clinically significant Type C symptoms outside patient's baseline level of functioning that are not responsive to Lorazepam, contact clinician to consider adjunctive therapy with Haloperidol. Continue to assess patient using MAWS Assessment Scale every 1 hrs. (Clinician must review EKG to assess QT interval prior to ordering haloperidol.)
 - a. If clinician orders, dosing of Haloperidol is 2-4 mg PO/DHT/IM every 2 hours until TYPE C symptoms resolve OR patient is calm and cooperative OR can be redirected.
 - b. Continue MAWS Assessment Scale scoring and patient monitoring every 1 hr following each dose of Haloperidol. Contact clinician if patient develops fever, new hypertension, dystonic reaction, or fails to respond to Haloperidol. Consider transfer to ICU.
 - 6. If patient has MAWS Assessment Scale > 6 (SEVERE withdrawal) following 6 hours of active treatment OR signs of clinical instability (e.g. SBP <85 or >185; HR >125; RR > 30; inability to protect airway), contact physician. Recommend evaluation for transfer to ICU.
 - 7. When patient has stabilized (MAWS Assessment Scale < 5 for a 24 hr period), notify clinician to consider protocol for MILD-MODERATE withdrawal.
 - 8. Initiate social work consult for assessment of alcohol cessation counseling during admission/post-discharge if not done previously.



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Type B Symptoms (Adrenergic Hyperactivity)	Does	s patier	t have											akens to vo			tact <10 se	conds)			mple verba			
e. Nausea or vomiting	If MA\	WS score	is ≥2 with	presence	e of 2 or n	nore Type	B sympt	oms not r	esponsive	e to				ement or e			•				eply sedate n significant			
f. Tremor visible with or without arms extended			tact MD to						•					onse to voice se to voice				to pnysica	ii stimulatio		r signilicani arousable	i priysicai s	umulation	
g. Sweat visible on palms or forehead			dminister									,	·		. ,									
h. SBP130mmHg over baseline or >170mmHg OR DBP120mmHg over baseline or >100mmHg		ntinue clo any one do	nidine if s	ystolic BF	o decrease	es by >30	OR diast	olic BP d	ecreases l	by >20		C	CAGE S	Screenii	ng Tool				T-A	CE Scr	eening	Tool		
i. Heart rate >110		•		antinua	1 :	S >4 unla		dee enee	ified by N	4D	CAGE	E screenin	a auestio	nnaires - C	ompleted	bv Physic	ian TAC	E screenin	g questior	nnaires - C	ompleted	bv Physic	ian	
Assign one point for each symptom group (e-i), maximum points: 5	Loraz	zepam sn	ould be c	onunuec	II WAVVS	o ≥1 unie:	ss otherv	vise spec	inea by N	VID			Ask: "Ha	ave you felt	the need t	o cut	_	olerance			Irinks does			el high?"
Type C Symptoms (Delirium)	Asse	ess for	acute c	hange f	from ba	seline*	*Does t	he pati	ent dem	onstrate	•			wn on your				Annoyed			annoyed y			drinking?'
j. Inappropriate behavior AND cannot be redirected			tory of den			/ baseline	patient be	havioral c	haracterist	ics that	A = A	nnoyed		ave people ticizing you			C = (Cut down		ave you ev n your drink	er felt you (ina?"	ought to cu	t down	
OR k. Disinhibited AND cannot be redirected	1 '		sified as Ty aracteristic		nptoms.						G = G	Guilty		ave you eve		or guilty	E = E	Eye-opener	Ask: "H	ave you ev	er had a dr			
OR	1.	aseille ch	aracteristic	s nere.							E = E	ve-onener		out your drave you eve		ink firet	A 555				ur nerves o	_		
I. Disoriented - cannot state name, date, where they are, how long hospitalized OR	2. 3.											ye-opener	thi	ng in the merves or get	orning to s	teady your	to mo		vers to que o drinks (th tive.					
m. Hallucinations (auditory, tactile, and/or visual) AND cannot be redirected	4.	NS score	≥1 with pre	sence of	Type C ev	mntome n	ot reenons	ive to lorg	zenam co	ntact	Nure	e Signatu	re·								Tim	ne:		
Max points: 1	MD to	consider	adjunct the	erapy with	haloperido	ol.	ot respons	10 1016	<u>opam</u> , oc		- 1													
*Note: although patients may have more than one Type C	If MD	orders, ac	lminister ha	aloperidol	as ordered	d q 2hr prr	n until Type	e C sympt	oms resolv	/e OR												ne:		
symptom, the total maximum points assigned for scoring is 1.	1.		and cooper ould be co				otherwise	specifie	d by MD													ne:		
Michigan Alcohol Withdrawal Severity (MAWS) Score	LOTAZ	.spain sill	-aia DG 60	ueu I			WISC	Specified	~ ~ y IIID		─ Nurs										Tim	ne:		
(Sum of Type A, B, C scores - maximum of 10 points)												RE	V: 07/09						M		Adult	t Alcohol W	ithdrawal	

REV: 07/09 HIM: 07/09

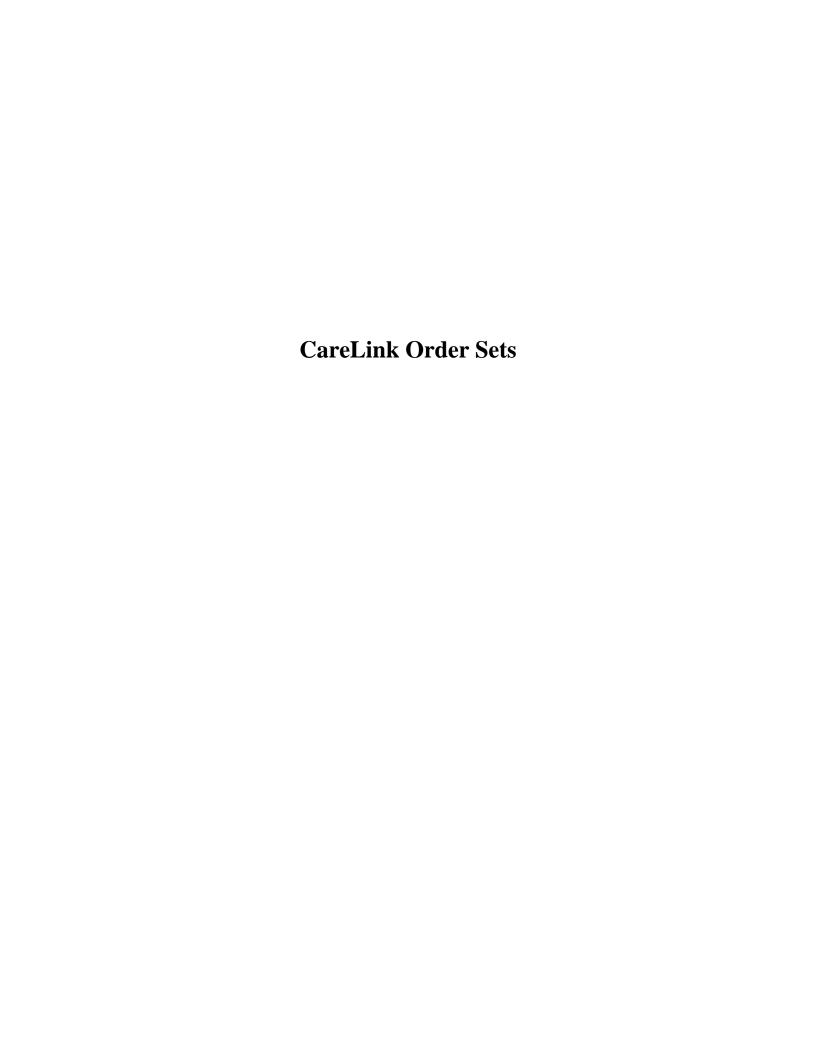
Medical Record

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University of Michigan Hospitals and Health Center

Adult Alcohol Withdrawal

Syndrome Flowsheet



PHYSICIAN INSTRUCTIONS

ADULT Michigan Alcohol Withdrawal Guidelines Updated 6/15/09

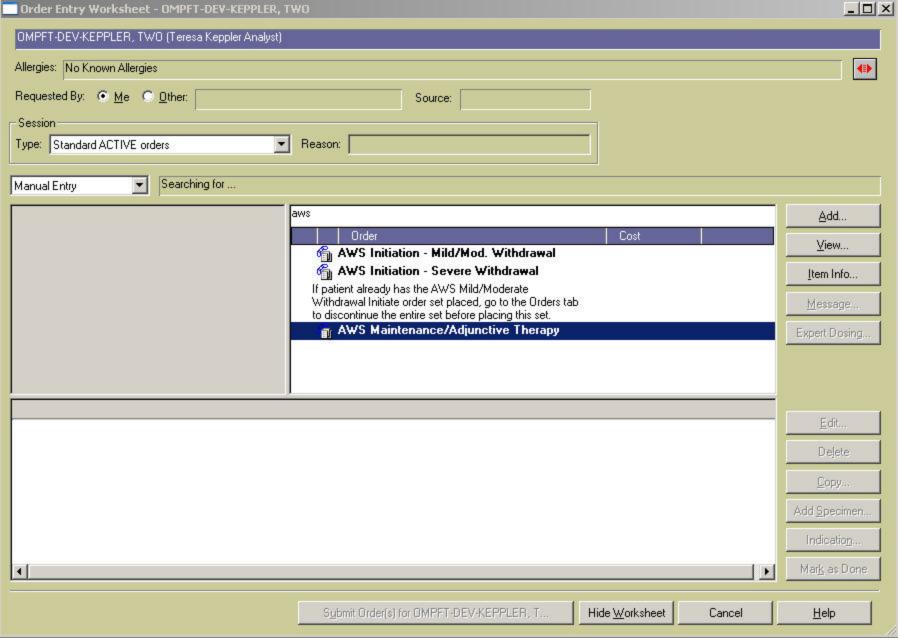
INSTRUCTIONS FOR CARELINK ORDER SETS

Initiating Orders

- 1. Search terms for order sets in CareLink include "alcohol", "alcohol withdrawal", "EtOH" or "AWS".
- 2. There are three available order sets: 1) "AWS initiation Mild/Moderate Withdrawal; 2) "AWS initiation Severe Withdrawal"; and 3) "AWS Maintenance/Adjunctive Therapy".
- 3. Select "AWS initiation Mild/Moderate Withdrawal" order set for Mild/Moderate withdrawal (MAWS score <6) or "AWS initiation Severe Withdrawal" order set for Severe withdrawal (MAWS score >6.)
- 4. The "AWS Maintenance/Adjunctive Therapy" order set is used for ordering adjunctive medications (Clonidine or Haloperidol) or maintenance therapy (Lorazepam, Clonidine or Haloperidol). Orders in this set are stratified separately for Mild/Moderate withdrawal or Severe withdrawal. This order set should not be used alone, and is used in addition to either the Mild/Moderate or Severe order sets.

Changing Order Sets

- 1. The following steps are necessary for proper maintenance and avoidance of duplicate/conflicting orders between sets.
- 2. Changing between the "AWS Mild/Moderate Withdrawal" and "AWS Severe Withdrawal" orders
 - a. Discontinuing the old order set:
 - i. Within the "Orders" tab in CareLink, locate the "Display Format" drop down menu in the left-hand pane, and select the "Order Sets" option. This will result in all orders to sort under their respective order sets in the right-hand pane.
 - ii. To discontinue an order set, right-click on the name of the order set in the right-hand pane, and select "Discontinue/Cancel".
 - b. Initiating a new order set:
 - i. To initiate the new order set, see instructions for "Initiating Orders" above.
 - ii. If an EKG has been obtained previously, this order may be unchecked.
 - iii. If a social work consult has been requested previously, this order may be unchecked.
- 3. Changing the "AWS Maintenance/Adjunctive Therapy" orders
 - a. Sort orders by order sets as described in step 2(a)(i) above.
 - b. Right-click the name of the order set and choose "Discontinue/Reorder".



Birthdate: 03-01-1948 Reg# 033811470

Notify Clinician

Order	Parameter	Special Instructions
✓ Notify Clinician for	Clinical instability	
✓ Notify Clinician for	patient who requires > or = 8 mg Lorazepam in 12 hours	Physician to consult AWS protocol.
✓ Notify Clinician for	Persistent TYPE B symptoms* not responsive to Lorazepam	Physician to consider ADJUNCTIVE therapy with Clonidine
✓ Notify Clinician for	Persistent TYPE C symptoms* not responsive to Lorazepam	Physician to consider ADJUNCTIVE therapy with Haloperidol
✓ Notify Clinician for	MAWS* score > or = 6 (severe withdrawal)	Physician to consider initiating SEVERE withdrawal protocol
✓ Notify Clinician for	MAWS* = 0 for 72 hours	Contact physician to discontinue AWS protocol

Nursing

Order	Parameter	Frequency	Special Instructions
✓ Assess	patient using MAWS*	Q2H	Including blood pressure, heart rate, respiratory rate, and oxygen

If patient is sedated or is requiring all 3 medications (lorazepam, clonidine, and haloperidol) for treatment of AWS, consider an evaluation for ICU management.

Medications

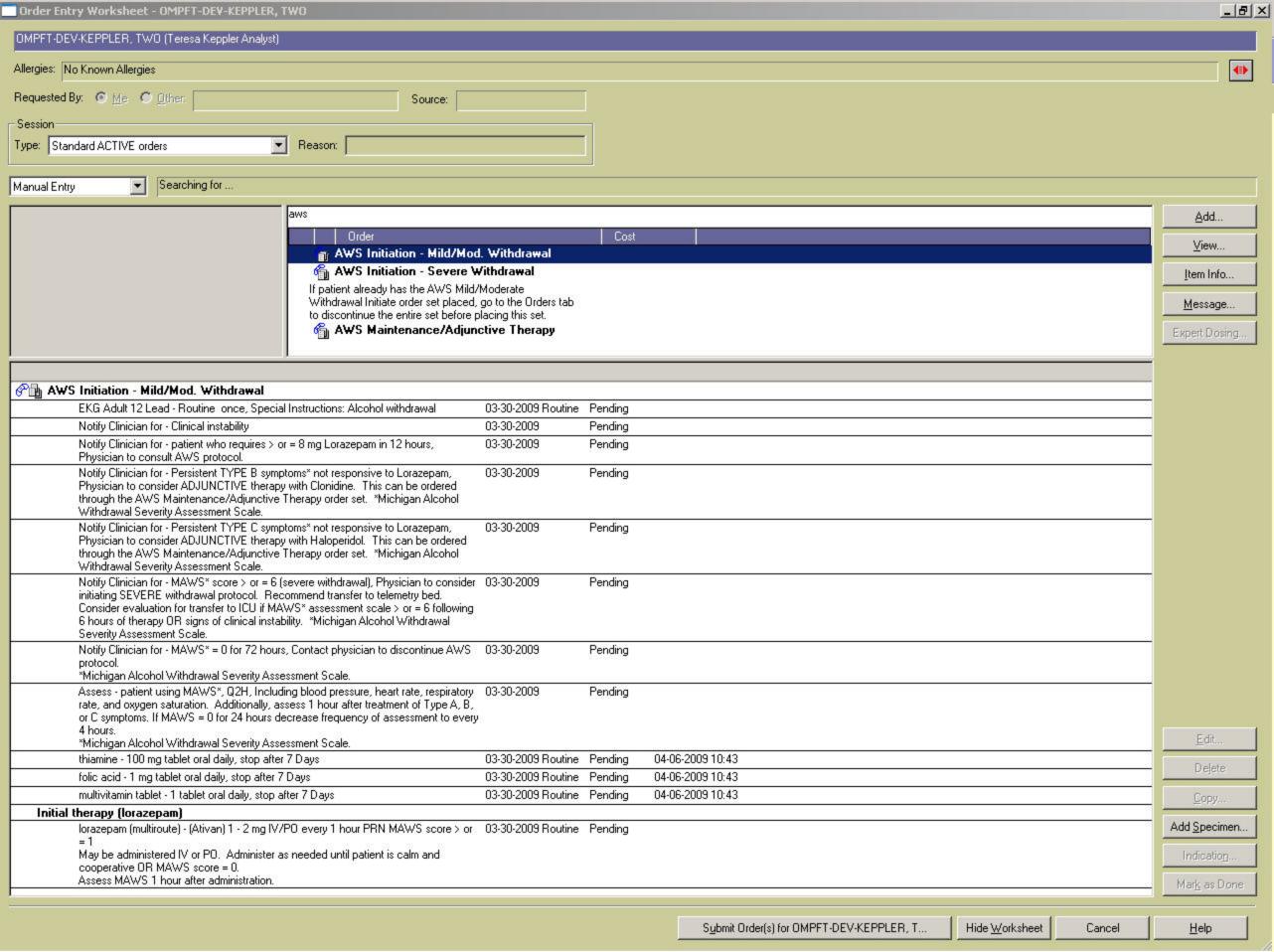
Order	Ordering Info	Dose	From	To	UOM	Route	Frequency	PBN	PRN Reason	Additional Info
✓ thiamine	for 7 days	100			mg	oral	daily			
thiamine IVPB UH	for 7 days	100			mg	IV	daily			
☑ folic acid	for 7 days	1			mg	oral	daily			
folic acid injection	for 7 days	1			mg	IV	daily			
multivitamin tablet	for 7 days	1	,		tablet	oral	daily			
Initial therapy (lorazepam)	- 2 item(s)									
☑ lorazepam_			1	2	mg	IV/P0	every 1 hour	✓	MAWS score >	May be
☐ lorazepam	liquid	V	1	2	mg	oral	every 1 hour	V	MAWS score >	May be

Cardiology

Order	Priority	Requested Date	Indication	Right Sided	Rhythm Strip	Special Instructions
☑ EKG Adult 12 Lead	Routine	03-30-2009	Assess QT interval			Alcohol withdrawal
				_	_	

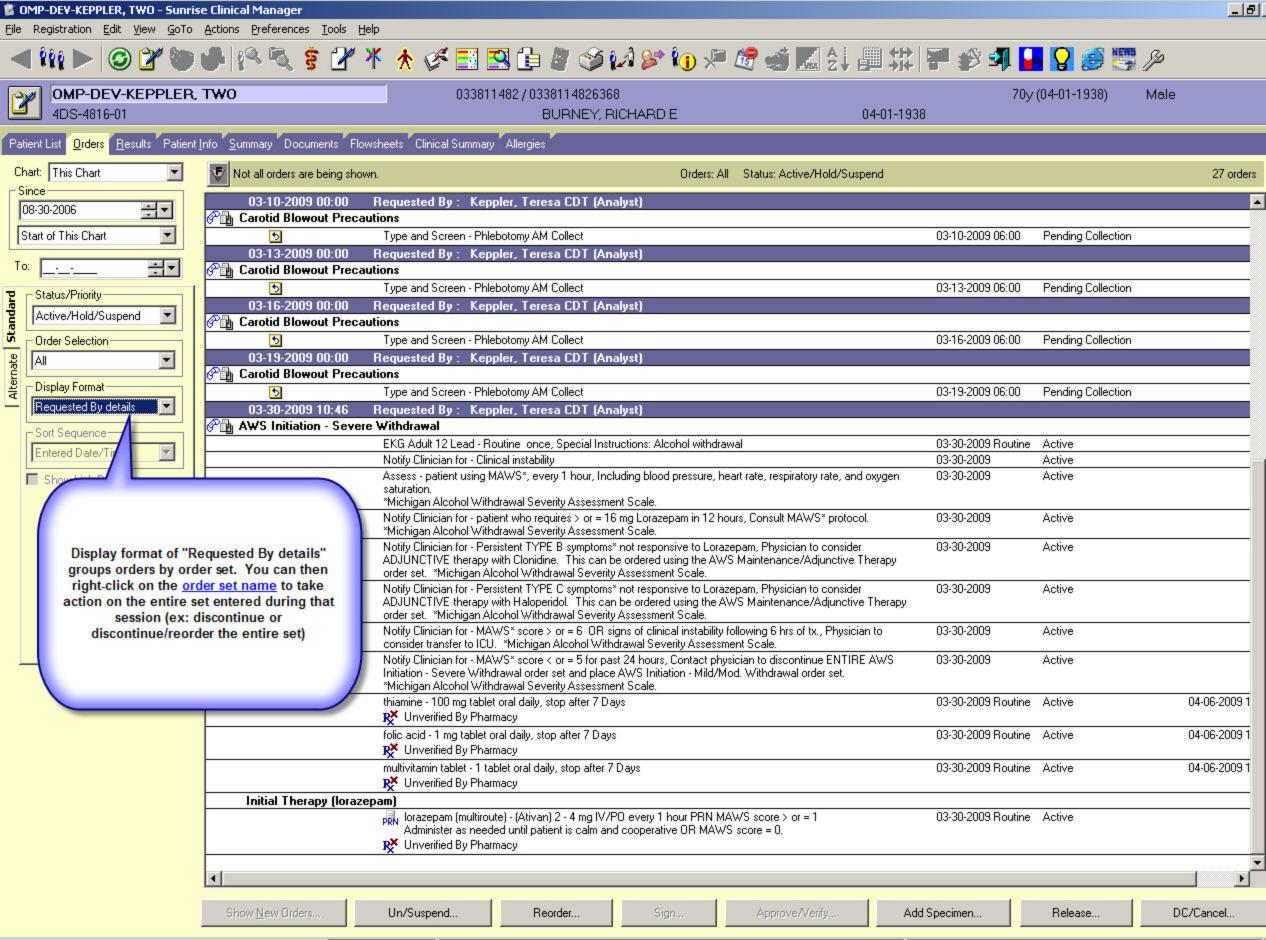
Last Review: 01-29-2009

Last Revised: 01-29-2009



AWS Maintenance Adjunctive Therapy

fjunctive Medications:										
Order	Ordering Info	Dose	From	To	UOM	Route	Frequency	PRN	PRN Reason	Additional Info
Mild/Moderate Withdrawal: - 2	2 item(s)									
clonidine		0.1			mg	oral	every 2 hours	V	Type B score = or	Administer up to 3
☐ haloperidol (multiroute)	EKG REQUIRED		0.5	2	mg	IM/PO	every 2 hours	V	clinically significant	May be administered
Severe Withdrawal: - 2 item(s	5)									
clonidine		0.2			mg	oral	every 2 hours	V	Type B score = or	Administer up to 3
haloperidol (multiroute)	EKG REQUIRED		2	4	mg		every 2 hours	V	clinically significant	May be administered
haloperidol (multiroute)										
haloperidol (multiroute) aintenance Medications:	Ordering Info	Do		om To			every 2 hours		clinically significant	May be administered Additional Info
intenance Medications: Order Maintenance (lorazepam) - 1	Ordering Info					M Rou	te Frequency	P	RN PRN Reason	Additional Info
intenance Medications: Order Maintenance (Iorazepam) - 1 In Iorazepam (multiroute	Ordering Info					M Rou		P	RN PRN Reason	
intenance Medications: Order Maintenance (lorazepam) - 1	Ordering Info) UOI	M Rou	te Frequency	P	RN PRN Reason	Additional Info
intenance Medications: Order Maintenance (Iorazepam) - 1 Implications: Maintenance (Iorazepam) - 2 it Maintenance (clonidine) - 2 it Clonidine	Ordering Info		ose Fr) UOI	M Rou	te Frequency	Pi urs [RN PRN Reason	Additional Info
intenance Medications: Order Maintenance (Iorazepam) - 1 Im Iorazepam (multiroute) Maintenance (clonidine) - 2 it	Ordering Info item(s) s) >/= 4 mg/24 hours iem(s)	0.	ose Fr) UOI	M Rou	te Frequency	urs [RN PRN Reason	Additional Info
intenance Medications: Order Maintenance (Iorazepam) - 1 Implications: Maintenance (Iorazepam) - 2 it clonidine	Ordering Info item(s) e) >/= 4 mg/24 hours item(s) < 0.6 mg/24 hours >/= 0.6 mg/24 hours	0.	ose Fr		mg mg	M Rou	te Frequency O every 6 ho	urs [RN PRN Reason	Additional Info May be administered Stop clonidine if SBF



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