University Hospitals Sussex NHS Foundation Trust

Alcohol Withdrawal Syndrome: Management guidelines for adults

Version:	[2]
Category and number:	n/a
Approved by:	Medicines Governance Group MGG
Date approved:	September 2021
Authors:	Emma Gallichan Yazan Haddadin Magda Markiewicz
Name of responsible committee:	MGC
Name of responsible director:	Mike Okorie
Date issued:	September 2021
Review date:	September 2023
Target audience:	Members of staff involved in alcohol withdrawal management
Accessibility	Download / Print / Online via Microguide
Linked documents	See links in Guideline

Contents

Guideline summary

Acute withdrawal syndrome (AWS) is a set of physical and psychological symptoms that most commonly begin within 6-24hours after the last drink however severe symptoms can manifest up to 7 days. In the absence of medical management AWS can be hazardous in those with severe dependence, as it may lead to seizures, delirium tremens and potentially, death.

Detoxification refers to a treatment program designed to help control the medical and physiological complications that may occur after a period of heavy or sustained alcohol use.

Where alcohol dependence or AWS is suspected, in addition to completing a full clinical history, physical and mental state examination, comprehensive alcohol history using SADQ/CIWA-Ar score and investigations such as FBC, LFTs, INR, BMs are also essential.

Symptom triggered pharmacological management of AWS

The aim of detoxification using benzodiazepines is to rapidly control withdrawal symptoms and stabilize the patient. The dose is gradually reduced over 5-7 days, until detox completion. The aim is to keep CIWA score below 10 without over sedation. The medication prescribed should achieve light sedation or sleep, of which the individual can be easily roused.

<table>
<tr><th></th><th>Mild (CIWA<10)</th><th>Moderate (CIWA 10-15)</th><th>Severe (CIWA 15+)</th></tr>
<tr><td>Presentation</td><td>• Typical consumption <15 units per day
• Patients with high risk but non-continuous alcohol use and/or low-level dependence
• No alcohol on breath test
• Recent drinking pattern 3-4 days a week only
• Recent detox with last 2/52
• Audit screen <15
• Audit C < 8</td><td>• Consuming 15-30 units per day
• Drinking to relieve withdrawal symptoms
• Evidence of significant withdrawal symptoms
• No evidence or history of severe withdrawal complications (seizure/DT)</td><td>• Consuming > 30 units per day
• History of severe withdrawal, DT, or seizure
• Signs suggestive of WE, or CIWA 15+
• Multiple substance addiction in particular high benzodiazepine use
• High level of agitation/aggression
• High NEWS score</td></tr>
<tr><td>Chlordiazepoxide (benzodiazepine of choice)

Care in elderly/frail if escalating therapy</td><td>Consider 20mg PO hourly PRN (MAX 80mg in 24 hours)

There is no need for a fixed dose regimen for this group of patients</td><td>30mg PO hourly PRN (MAX 250mg in 24 hours)

See Appendix G for Fixed dose regimen</td><td>40mg PO hourly PRN (MAX 250mg in 24 hours)

See Appendix H for Fixed dose regimen</td></tr>
<tr><td rowspan="2">Pabrinex</td><td>Prophylaxis of Wernicke Encephalopathy (WE):</td><td colspan="2">Signs or high risk of Wenicke Encephalopathy:</td></tr>
<tr><td>Pabrinex 1 pair IV ONCE a day for 3-5 days</td><td colspan="2">Pabrinex 2 pairs IV THREE times daily for 2 days then
If no response – discontinue
Clinical response - 1 pair IV OD for a further 5 days OR until clinical improvement ceases</td></tr>
<tr><td rowspan="2">Oral vitamins

Prescribe after completion of Pabrinex</td><td colspan="3">Thiamine 100mg PO TDS

If at risk of malnutrition: add Multivitamins 2 tablets PO OD

Duration of 6 weeks, to be reviewed by GP.
May be continued indefinitely if heavy drinking continues or concerns regarding nutritional state.</td></tr>
<tr><td colspan="3">NOT FOR ALCOHOL WITHDRAWAL/ONLY if at risk of re-feeding:
Vitamin B Co-Strong ONE tablet PO TDS for 10 days only</td></tr>
</table>

Please refer to the full guideline for more information

1. Introduction

Alcohol dependence affects 4% of people aged between 16-65yrs in England. In addition, over 24% of the English population consumes alcohol in a way that is potentially harmful to their health.

Acute alcohol withdrawal in the absence of medical management can be hazardous in those with severe dependence, as it may lead to seizures, delirium tremens and potentially, death.

Most alcohol detoxifications occur in community by the local treatment provider, Change Grow Live (CGL), either at home or in specialist units. However, there are individuals who do not fit the criteria for detox in the community. These patients require detox within hospital where complications can be managed. Nevertheless, it is important to establish communication with community services to ensure seamless transfer of care when patients are discharged.

These tend to be unplanned admissions with a concurrent illness, or with alcohol-related illnesses such as decompensated liver disease.

The Alcohol Withdrawal Syndrome (AWS) management guidelines were developed as failure to identify and manage complications of alcohol withdrawal can lead to long term complications or loss of life.

2. Scope

These guidelines are intended for use within the Trust to aid all staff with individuals aged 16 years and over admitted to hospital or A&E. It does not specifically look at women who are pregnant, children younger than 16 years old or people with physical or mental health conditions caused by alcohol use, other than those described below.

3. Purpose

The goal of this guideline is to minimize morbidity, mortality and patient distress by:

- Promoting early identification of alcohol use disorders (AUDs) in all hospital attendees.
- Promote identification and assess need for intervention in groups at high risk of serious complications.
- Facilitation of prompt initiation of medical management for alcohol-related conditions.
- Aiding appropriate pharmaceutical management of alcohol withdrawal syndrome and its complications.

4. Definitions

AA – Alcoholics anonymous
Alcohol dependence – craving, tolerance, a preoccupation with alcohol and continued drinking despite harmful consequences
APQ – Alcohol problems questionnaire
ARBD – Alcohol Related Brain Damage
AUDs – Alcohol use disorders
AUDIT-C: Alcohol Use Disorders Identification Test, consumption
BZD – Benzodiazepine
AWS – Alcohol Withdrawal Syndrome
CDZ – Chlordiazepoxide
CIWA-Ar: Clinical Institute Withdrawal Assessment of Alcohol Scale, revised
Harmful drinking (high risk drinking) – pattern of alcohol consumption causing health problems directly related to alcohol
LDQ – Leeds Dependence Questionnaire
MMSE – Mini Mental State Examination
SADQ – Severity of Alcohol Dependence Questionnaire
WE – Wernicke Encelopathy

5. Guideline

5.1 Alcohol Withdrawal Syndrome

Alcohol withdrawal syndrome (AWS) is a set of physical and psychological symptoms that occur following a reduction in alcohol intake after a period of excessive use. Symptoms are variable in onset, severity, and presentation.

AWS most commonly begins within 6-8hours of an abrupt reduction in alcohol intake and can peak between 10-30hours since last drink and lasts from 3-7 days.

5.1.1 Mild to moderate symptoms:

- Nausea, vomiting, diarrhoea
- Tremors in hands, arms, legs, sometimes trunk and neck
- Hyperactivity, anxiety, agitation
- Muscle pain
- Sweating
- Insomnia, restlessness
- Autonomic disturbances (tachycardia, hypertension, pyrexia)

5.1.2 Severe symptoms: AWS has three severe, life threatening complications which are described briefly below:

A) Seizures

Alcohol related seizures usually occur within the first 12hours of cessation or significant reducing of intake. Seizures are rare beyond 48hours after last alcoholic drink.

- Patients that have suffered a seizure should be admitted to CDU for observation for 12-24 hours.
- For isolated seizures, continue regimen ensuring patient has received adequate BZD dosing, which may need increasing
- Predisposing factors include; history of epilepsy, hypoglycaemia, electrolyte disturbances such as, hypocalcaemia and hypomagnesaemia.

Management of alcohol withdrawal seizures

- First line: **lorazepam 4mg IV bolus** into a large vein as per UHS Trust protocols
- Second line: diazepam 10mg IV bolus **OR** diazepam 10mg rectally
- Please note, diazepam injection is contraindicated in severe liver impairment.
- If seizures are prolonged, give second dose after 10minutes, then follow Trust protocols https://viewer.microguide.global/guide/1000000244#content,12de1a7a-118a-459e-99bc-a6f75e39c59b
- Call MET team on 2222 if two or more doses are required and seek senior medical advice and support
- **DO NOT use phenytoin to treat alcohol withdrawal seizures**
- Ensure appropriate supervision and monitoring whilst patient at risk of seizures
- It is **vital to avoid over or under sedation** as this can cause: DTs, aspiration pneumonia, hypotension and paradoxical hostility and agitation.

B) Delirium Tremens (DTs)

DT is a medical emergency and carries a high mortality rate of 15-20% if inappropriately managed. It occurs in less than 5% of patients during alcohol withdrawal and can last 3-5 days.

Onset of **symptoms** is usually 24-72hours after alcohol cessation of reduced intake, symptoms include**:** Severe tremor, delusions, tachycardia, pyrexia, visual and auditory hallucinations, confusion and disorientation, clouding of consciousness

If agitation is severe, please refer to appendix E for treatment algorithm.

C) Wernicke's Encephalopathy

All patients with hazardous or dependent alcohol use will be at risk of WE because of malnutrition or comorbid ALD. WE is an acute neuropsychiatric disorder resulting from thiamine deficiency which develops rapidly or sub-acutely over a number of days
Inappropriate management is associated with:

- Estimated 20% mortality risk
- Approximately 80% of survivors develop Korsakoff's syndrome
- 85% risk of permanent brain damage (ARBD)

WE is initially reversible with high dose parenteral vitamin B (Pabrinex) so treatment should be initiated immediately in those with risk factors. WE is a medical emergency, therefore a low index of suspicion of diagnosis and commencement of treatment is recommended.

Management of Wernicke's encephalopathy

Prophylaxis	**Low risk of developing Wernicke's encephalopathy**	Pabrinex **1 pair** IV **ONCE a day** for **3-5 days**	Plus for **all** patients start the following *after* completion of parenteral vitamin replacement (Pabrinex): **Thiamine 100mg orally THREE times a day**
Treatment	**Signs of Wernicke's encephalopathy** (ataxia, opthalmoplegia, loss of memory, confusion) **OR** **HIGH risk of development of Wernicke's encephalopathy** (hypotension, hypothermia, malnourished, hyperglycaemia)	Pabrinex **2 pairs** IV **THREE times** daily for **2 days then** If no response – discontinue Clinical response - 1 pair IV OD for a further 5 days OR until clinical improvement ceases	

To avoid risk of refeeding, parenteral treatment should always be given before IV glucose therapy concerns about nutritional state

Other vitamin supplementation

If at risk of malnutrition add Multivitamins orally TWO tablets daily
If at risk of re-feeding syndrome, prescribe Vitamin B Compound Strong one tablet orally three times daily for 10 days ONLY. Due to a lack of evidence on their efficacy and safety, vitamin B complex preparations (vitamin B compound and vitamin B compound strong tablets) **should NOT** be prescribed for prevention of WE in alcoholism.

Oral thiamine and multivitamins can be discontinued after 6 weeks if abstinent and well-nourished but should continue indefinitely if heavy drinking continues or

Refeeding guidelines available at: https://nww.bsuh.nhs.uk/clinical/teams-and-departments/pharmacy/prescribing-guidelines/9-nutrition-iv-fluids-and-blood/92-refeeding-syndrome-guidelines-for-adults/

5.2 Alcohol detoxification

Detoxification refers to a treatment program designed to help control the medical and physiological complications that may occur after a period of heavy or sustained alcohol use.

It is important to note, individuals who have experienced repeated alcohol detoxifications have an increased likelihood of experiencing severe withdrawal symptoms such as seizures, DTs or WE.

5.2.1 Assessment of patients requiring medically assisted alcohol withdrawal

For those in acute alcohol withdrawal with, or who are assessed to be at high risk of developing, alcohol related seizures or DTs (as per Appendix A), offer admission to hospital for medically assisted alcohol withdrawal. Those with milder withdrawal may only need 'as required' chlordiazepoxide.

Many dependent patients manage their alcohol withdrawal symptoms everyday with continued alcohol use and it is often appropriate for them to continue doing so until seen in community. They can then be formally assessed to determine the best course of treatment for their alcohol dependence.

Consider a lower threshold for inpatient assisted withdrawal in vulnerable groups, for example, homelessness, older people with frailty and those with cognitive impairment or learning disability.

For those attending A&E who do not require hospital admission it may be appropriate to give a stat dose of chlordiazepoxide (**OR** diazepam in A&E) and Pabrinex, depending on their CIWA score, to prevent withdrawal symptoms.

Where alcohol dependence or AWS is suspected, in addition to completing a full clinical history, physical examination and mental state examination, a comprehensive alcohol history and investigations are also essential (see appendix B).

5.3 Pharmacological management of alcohol withdrawal syndrome

For alcohol withdrawal protocols see appendices F/G/H – these should be printed and added to patient's end of bed folder.

5.3.1 Benzodiazepines

The aim of detoxification using benzodiazepines is to rapidly control withdrawal symptoms and stabilize the patient. The dose is gradually reduced over 5-7 days, until detox completion. The aim is to keep CIWA score below 10 without over sedation. The medication prescribed should achieve light sedation or sleep, of which the individual can be easily roused.

The preferred medication to assist withdrawal is a benzodiazepine:

Benzodiazepine	**Rationale**
Chlordiazepoxide *1st choice*	• More gradual onset • Long half-life • Less risk of rebound symptoms
Diazepam	• Alternative in A&E • Use when patients are unlikely to be admitted to hospital **However** • Higher abuse potential • Greater risk of accumulation
Lorazepam	• Short acting • Consider when over-sedation should be avoided For example: • Later stage COPD • Elderly/ frail • Decompensated liver disease *These patients may not be able to metabolise long-acting drugs. Start with reduced benzodiazepine doses and monitor liver function closely.

It is **vital to avoid over or under sedation** as this can cause; DTs, aspiration pneumonia, hypotension and paradoxical hostility and agitation.

Initial treatment/ deciding when to give first dose of benzodiazepine

- Ideally 6-8hours after last drink
- Breath ethanol level should be falling
- The higher the alcohol dependency, the earlier withdrawal symptoms may present.
- If the individual is still highly intoxicated and experiencing withdrawal symptoms, discuss with senior physician and use with caution and close monitoring

It is better to give medication before withdrawal symptoms become significant or before investigations results are available. Prolonging treatment initiation can result in withdrawal symptoms becoming difficult to manage or development of severe complications.

It is important to note that use of benzodiazepine sedation whilst the patient is still intoxicated can lead to respiratory depression.

Along with guidelines below, please use professional clinical judgment.

Omitting doses

- Assess CIWA score before giving any fixed or PRN dosing
- If CIWA below 10 and the individual is hard to rouse, consider omitting dose and monitoring NEWS and GCS
- Be aware of respiratory depression – monitor pulse, respiratory rate and oximetry
- If individual only responsive to painful stimuli, alert outreach and/or on-call medical staff
- If suspicion of over sedation, omit dose
- Once individual more alert, consider breath alcohol test

UHS uses two regimens; <u>symptom triggered</u> regimen or <u>fixed dose</u> regimen.

Symptom triggered regimen

Whilst in hospital, NICE recommend a symptom triggered regimen for individuals requiring alcohol detoxification/ in acute alcohol withdrawal.

A symptom triggered approach involves tailoring the drug regimen according to the severity of withdrawal and any complications. The patient is monitored on a regular basis and pharmacotherapy only continued for as long as withdrawal symptoms are present.

All staff should be competent in monitoring symptoms effectively and there should be sufficient resource to allow frequent and safe monitoring.

The CIWA-Ar symptom triggered protocol (Appendix C) is a validated tool which can be used to tailor treatment to the individual and reduce overall time for detoxification and requirement for medication.

Only for use in A&E, AAU, Level 9a and HDU/ITU. These wards have appropriate nursing expertise to safely monitor patients.

Please see appendix F/G/H for symptom triggered protocols.

Fixed dose regimen

All other areas must use a fixed dose regimen

Use of higher chlordiazepoxide doses in severe dependency

- Generally more effective to increase the dose of chlordiazepoxide than to add another medication
- In severe AWS, higher than BNF recommended doses of chlordiazepoxide may be required (extremely close monitoring is required and **must** be authorized by a senior physician)
- Ensure adequate supervision, individual may need 1:1 nursing until stable
- Consider increased night-time dose if symptoms become more severe at night as first line. Zopiclone 3.75-7.5mg ON PRN can be added second line.
- Gradually reduce chlordiazepoxide dose over 7-10days to avoid alcohol withdrawal recurring
- Withdrawal regimens may last longer (2-3weeks) depending on severity of dependence or history of DTs.
- If patients do not respond well to higher chlordiazepoxide doses and CIWA remains high/ uncontrolled, consider alternative benzodiazepine, for example, switching to lorazepam.

5.4 Proton Pump Inhibitors (PPIs) in Acute Alcohol Withdrawal

- PPIs are **not** routinely recommended for patients requiring alcohol detox
- There is some evidence that PPIs in cirrhosis may increase the risk of spontaneous bacterial peritonitis (SBP) and hepatic encephalopathy (HE).
- PPI usage should be driven by a concern of bleeding risk or in the immediate post-endoscopic banding to prevent re-bleeding.
- The PPI duration should take these risks/ benefits into account.

5.5 Alcohol withdrawal syndrome in special patient groups

A) Liver impairment

In patients with advanced liver cirrhosis, benzodiazepines may have a prolonged half-life. This may lead to marked and longer lasting over-sedation.

The severity of cirrhosis can be assessed using the Childs-Pugh (CP) score (see appendix K). Severity is graded on a scale from A, indicating well compensated cirrhosis, to C, indicating advanced cirrhosis.

- In patients with advanced cirrhosis (Childs Pugh C), chlordiazepoxide should be avoided.
- Lorazepam is less likely to accumulate and should be used in preference.

At first presentation in individuals where no biochemical data is available to guide hepatic functional assessment, the presence of large volumes of ascites and/or visibly detectable jaundice, it should be assumed they have severely impaired liver function.

Lorazepam should be prescribed until investigations are available.

B) Elderly patients (>75 or >65 with frailty)

Elderly patients are particularly vulnerable to complications of over sedation of benzodiazepines such as falls and aspiration pneumonia. This is due to a reduced capacity to metabolise and eliminate benzodiazepines.

General principles to compensate for these factors are to reduce benzodiazepine doses by half and titrate according to response. Dosage intervals can also be increased if necessary and response reviewed regularly. Consider lorazepam if there is a perceived risk of accumulation.

C) Respiratory Disease

Benzodiazepines may cause respiratory depression and increase risk of hypercapnoea.

In patients with COPD or severe asthma consider low dose chlordiazepoxide with symptom triggered PRN doses and more regular CIWA monitoring.

D) Nil By Mouth (NBM)

- Give regime as directed with up to 10ml of water if the patient is only NBM for a procedure or operation
- Detox with IV diazepam or lorazepam should only be used after discussion with a senior clinician, which may require HDU for safe monitoring.
- **NB: Diazepam injection is contraindicated in severe liver impairment**
- Diazepam IV 10mg can be given slowly into a large vein over 10minutes (MAXIMUM 4hourly in HDU)
- Absorption rate from IM diazepam may be variable and should **only** be considered if IV administration is not possible
- Do NOT use lorazepam IV with olanzapine

E) Dysphagia

Please discuss with the ward pharmacist. There are several options, however the suitability of each depends on patient specific factors.

	Drug	**Administration**	**Cost**
First line	Chlordiazepoxide	• Open capsules and disperse contents in up to 10ml water • Can be given via enteral tubes	£2.16 per 100 tablets
Second line	Lorazepam	• Tablets can be given sublingually • Tablets will disperse in water	£5.35 per 100 tablets
Third line	Diazepam	• Liquid can be given via enteral tubes • Dilute with water to reduce viscosity	£30 per 100ml bottle

5.6 Managing detox in patients already on benzodiazepines:

- Patients already prescribed or taking illicit benzodiazepines, for example temazepam or regular diazepam prior to admission, should be continued on their normal dose in addition to the chlordiazepoxide reducing regime.
- Calculate the initial daily dose based on the requirements for alcohol withdrawal plus the equivalent regularly used daily dose of BZD.
- Benzodiazepine dependence or tolerance may have an impact on the required doses of chlordiazepoxide needed to control alcohol withdrawal symptoms.
- Patients already admitted on chlordiazepoxide should not be weaned.

5.7 Important additional medical complications

Dehydration and electrolyte depletion

- Both are likely in those who are withdrawing from prolonged alcohol binges
- These may represent an indication for admission, independent of AWS severity
- The degree of dehydration and electrolyte deficiency may be profound and require substantial replacement (particularly Mg, K+ and phosphate)
- Hypomagnesaemia is particularly significant and should be treated as it decreases seizure threshold and reduces thiamine absorption. Failure to replace magnesium may make treatment of hypokalaemia refractory.
- Dehydration and volume depletion increases autonomic activity and contributes to the physiological challenge posed by AWS.
- Crystalloid fluids containing potassium at standard maintenance rates are required if the patient is sedated and cannot ingest sufficient oral intake.
- Intravenous fluids may initially need to be given at an accelerated rate (N.B. monitor for ascites and pulmonary oedema) according to haemodynamic compromise and volume status, with consideration for common concurrent illnesses, such as advanced cardiac or liver disease.
- Sodium chloride 0.9% should be given initially for fluid and electrolyte repletion.
- **Glucose 5% should be reserved until haemodynamically stable and 30minutes after IV thiamine (Pabrinex) has been given.**

Hypoglycaemia

- IV thiamine (Pabrinex) should always be given approximately 30minutes before glucose administration.

Alcoholic ketoacidosis

- Form of starvation ketosis due to carbohydrate depletion.
- Contributes to the illness and physiological instability.
- Low pH with raised capillary ketones.
- Call outreach nurses and doctor.
- Treat 30minutes after initial high dose Pabrinex with 5% glucose and 0.9% NaCl (plus potassium supplementation as necessary)

5.8 Discharge

- Nurse led discharge may proceed over weekends, provided a consultant plan is in place and documented in the medical notes.

- All inpatients should be prescribed oral thiamine which can be discontinued after 6 weeks if abstinent and well-nourished but should continue indefinitely if heavy drinking continues or concerns about nutritional state.

  Consider/include instructions for GP to consider oral thiamine and multivitamins for all other patients (e.g.: patients in emergency department not admitted to a ward).

- Patients must **NOT be discharged on chlordiazepoxide**

- Provide advice to **all** patients about contacting local alcohol services (see below) or GP regarding further support post discharge.

- If a patient wishes to self-discharge, their mental capacity, as per the Mental Capacity Act 2005, must be established. Where patients are deemed to have capacity, the UHS Trust policy must be adhered to. Please document accordingly.

- If advising patients about continued drinking on discharge, give clear information on reducing consumption slowly rather than abruptly stopping due to the possibility of resulting seizures or DTs. Ensure to document in medical notes.

Community contact details:

1. Change Grow Live (CGL) – 01273 731 900
2. East Sussex drug and alcohol recovery service (STAR) – 0300 303 8160
3. Alcoholics Anonymous (AA) – 01273 203 343
4. West sussex (Crawley, Worthing, Chichester, Bognor, Haywards Heath) 0330 128 1113 or email WestSussex.Firststep@cgl.org.uk
5. East Sussex (Eastbourne and Hastings) 0300 3038160 or email EastSussex.Firststep@cgl.org.uk
6. East Kent (Ashford, Canterbury, Dover, Folkestone and Hythe, Swale and Thanet) 03001231186 or visit the Forward Trust website https://www.forwardtrust.org.uk/
7. West Kent (Dartford, Gravesham and Swanley, Maidstone, Sevenoaks, Tunbridge Wells and Tonbridge and Malling) 03301281113 or email WestKent.FirstStep@cgl.org.uk or visit the Change Grow Live website https://www.changegrowlive.org/westkent
8. Surrey – 03002225932 or email rxx.iaccess@nhs.net

Appendices:

Appendix A – Indications for hospital admission

Absolute indications for urgent hospital admission	• Severe tremor, hallucinations and autonomic disturbances (may represent DT's) • Confusion associated with ataxia, nystagmus, hypotension and hypothermia (may represent WE) • Suicide risk (requires urgent referral to mental health) • Decompensated liver disease • Alcoholic hepatitis • Recent withdrawal seizures • Large GI or PR bleeding (suggestive of ulcer or varices)
Relative indications for urgent hospital admission	• Persistent vomiting or diarrhoea that limits the individuals normal alcohol intake • Signs of malnutrition (BMI <18.5 or significant weight loss) – increased risk of WE • History of seizure or DTs during previous alcohol withdrawal • Nil by mouth or inability to swallow • History of epilepsy and/or poor compliance with epilepsy medication • Significant benzodiazepine or other recreational drug use/dependence/withdrawal • Electrolyte abnormalities that may lower the seizure threshold, for example, hypokalaemia or hypomagnesaemia • Pregnancy
Patients that may not require inpatient alcohol detoxification	• Binge or periodic drinkers whose last heavy use was over 72hours ago • Patients with high risk but non-continuous alcohol use (low dependence) • No alcohol on breath test • 3-4 day per week drinking pattern only • Recent detox in the last two weeks • Consumption under 15units per day • Full AUDIT < 15 • AUDIT C <8

Appendix B Recommended assessments for patients requiring alcohol withdrawal

Comprehensive alcohol history

- AUDIT-C or full AUDIT score
- Units consumed per drinking day
- Date and time of first drink
- Drinking pattern
- Dependence (SADQ)
    - Mild dependence – SADQ 15 or less
    - Moderate dependence – SADQ 15-30
    - Severe dependence – SADQ over 30
- History of fits
- Medication
- History of complications of alcohol use (for example liver disease, GI bleed, malnutrition, peripheral neuropathy)
- Previous detox and withdrawal symptoms
- Symptoms indicative of physical dependence
- Morning drinking
- Tolerance and relief drinking
- Concurrent illicit drug use (for example, stimulants)
- Benzodiazepine use/dependence (including illicit use)
- Social circumstances (please raise child safeguarding if main carer for or around children)
- Involvement with treatment services
- History of domestic violence

Investigations

- Full blood count
- Urea and electrolytes
- Calcium, phosphate, magnesium
- Liver function tests (with albumin and GGT)
- INR
- Glucose
- Breath alcohol

Appendix C: Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar)

The Clinical Institute Withdrawal Assessment of Alcohol Scale (revised) is a validated 10-item assessment tool which quantifies the severity of an individual's alcohol withdrawal symptoms. As such, CIWA provides guidance on monitoring and benzodiazepine dosage throughout withdrawal.

The scale takes less than five minutes to complete.
The maximum possible score is 67.

Attach to the drug chart

Nausea and Vomiting Ask: "Do you feel sick to your stomach? Have you vomited?" Observation 0 No nausea and no vomiting 1 Mild Nausea and vomiting2 3 4 Intermittent nausea with dry heaves 5 6 7 Constant nausea, frequent dry heaves and vomiting	**Tactile Disturbances** Ask: Have you any itching, pins and needles sensations, any burning, any numbess or do you feel bugs crawling on or under your skin? Observation 0 None 1 Very mild Itching, pins and needles, burning or numbness 2 Mild itching, pins and needles, burning or numbness 3 Moderate itching, pins and needles, burning or numbness 4 Moderately severe hallucinations 5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
Tremor Arms extended and fingers spread apart. Observation 0 No Tremor 1 Not visible, but can be felt fingertip to fingertip 2 3 4 Moderate, with arms extended 5 6 7 Severe, even when arms not extended	**Auditory Disturbances** Ask: "Are you more aware of sounds around you? Are they harsh? Do they frighten you?" Are you hearing things you know are not there? Observation 0 Not present 1 Very mild harshness or ability to frighten 2 Mild harshness or ability to frighten 3 Moderate harshness or ability to frighten 4 Moderately severe hallucinations 5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
Paroxysmal Sweats Observation 0 No sweat visible	**Visual Disturbances** Ask: "Does the light appear to be too bright? Is it's colour different? Does it

1 Barely perceptible sweating, palms moist 2 3 4 Beads of sweat obvious on forehead 5 6 7 Drenching sweats	hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there? Observation 0 Not present 1 Very mild sensitivity 2 Mild sensitivity 3 Moderate sensitivity 4 Moderately severe hallucinations 5 Severe hallucinations 6 Extremely severe hallucinations 7 Continuous hallucinations
Anxiety Ask "Do you feel nervous?" Observation 0 No anxiety, at ease 1 Mildly anxious 2 3 4 Moderately anxious, or guarded, so anxiety is inferred 5 6 7 Equivalent to acute panic states 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 you head?" Do not rate for dizziness or lightheaded. Rate severity 0 Not present 1 Very mild 2 Mild 3 Moderate 4 Moderately severe 5 Severe 6 Very severe 7 Extremely severe
Agitation Observation 0 Normal activity 1 Somewhat more than normal activity 2 3 4 Moderately fidgety and restless 5 6 7 Paces back and forth or constantly thrashes about	**Orientation and Clouding of Sensorium** Ask" What day is it? Where are you? Who am I?" Observation 0 Orientated and can do serial additions 1 Cannot do serial additions or is uncertain about date 2 Disorientated for date by no more than two calendar days 3 Disorientated for date by more than 2 calendar days 4 Disorientated for place/or person
Maximum score: 67	

Sullivan, J.T.; Sykora, K.; Schneiderman, J.; Naranjo, C.A.; and Sellers, E.M. Assessment of alcohol withdrawal: The revised Clinical Institute Withdrawal Assessment for Alcohol scale (CIWA-Ar). British Journal of Addiction 84:1353-1357, 1989

Appendix D: Alcohol use disorders identification test consumption (AUDIT C) and full AUDIT questionnaire

This alcohol harm assessment tool consists of consumption questions from the full AUDIT screening tool.

Questions	Scoring system					Your score
	0	1	2	3	4	
How often do you have a drink containing alcohol?	Never	Monthly or less	2 to 4 times per month	2 to 3 times per week	4 or more times per week	
How many units of alcohol do you drink on a typical day when you are drinking?	0 to 2	3 to 4	5 to 6	7 to 9	10 or more	
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	

AUDIT C score	

Scoring:

- A total of 5 or more is a positive screen
- 0 to 4 indicates low risk
- 5 to 7 indicates increasing risk
- 8 to10 indicates higher risk
- 11 to 12 indicates possible dependence

Alcohol_use_disorders_identification_test_for_consumption__AUDIT_C_.pdf (publishing.service.gov.uk)

If you have a score of five or more, complete the remaining alcohol harm questions below to obtain a full AUDIT score.

Remaining AUDIT assessment questions

Questions	Scoring system					Your score
	0	1	2	3	4	
How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you failed to do what was normally expected from you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you needed an alcoholic drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
Have you or somebody else been injured as a result of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested that you cut down?	No		Yes, but not in the last year		Yes, during the last year	

Total AUDIT score	

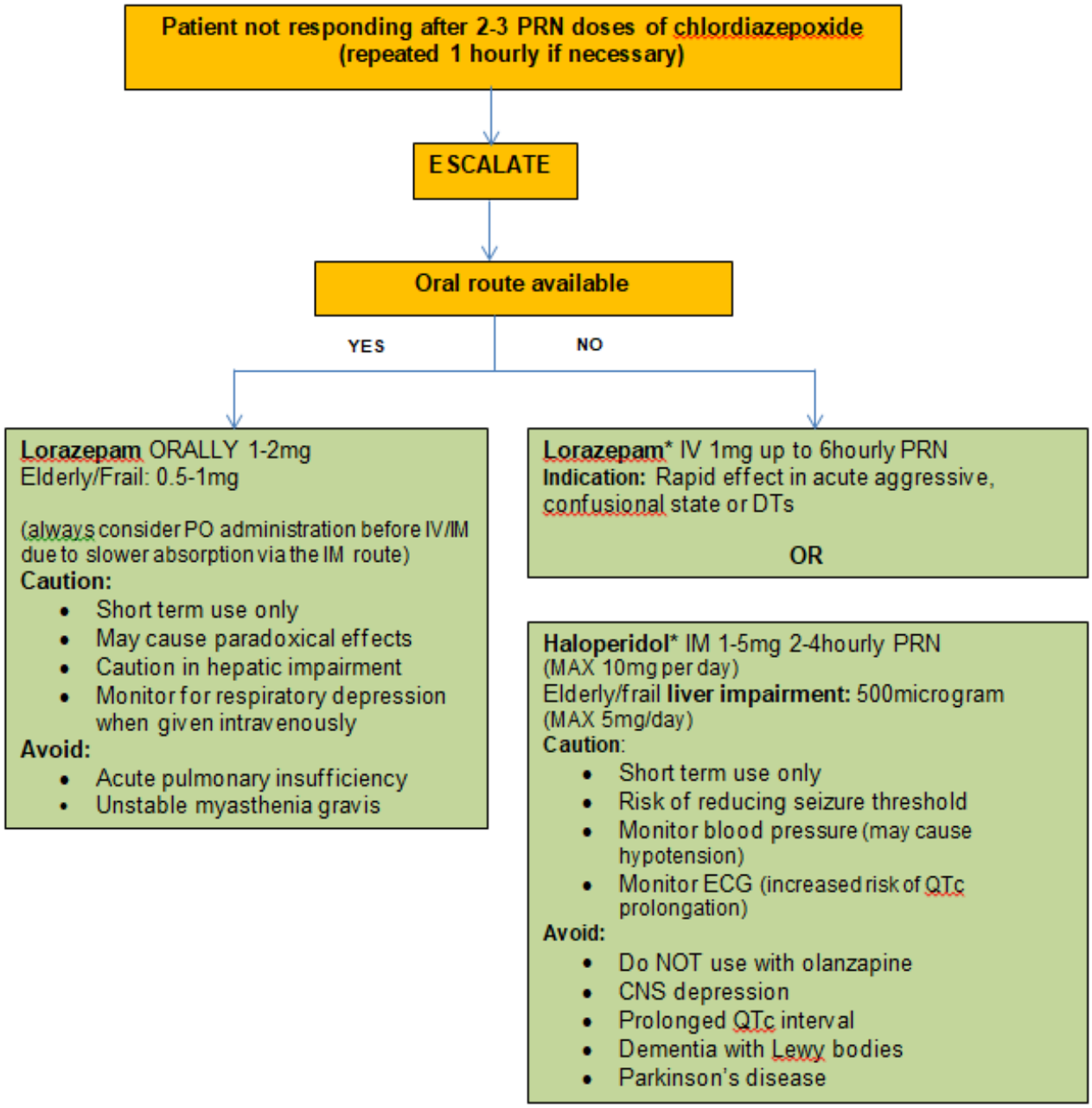
Scoring:

- 0 to 7 indicates low risk
- 8 to 15 indicates increasing risk
- 16 to 19 indicates higher risk
- 20 or more indicates possible dependence

Appendix E: Medical Treatment of Aggression, agitation and confusion

Please consider the safety of the patient themselves, other nearby patients, visitors and staff. Alert security if required. Patient's may need 1:1 care and may potentially require formal Deprivation of Liberty Safeguards (DOLS).

During acute alcohol withdrawal, there may be circumstances where a patient becomes a risk to themselves, staff and other patients.

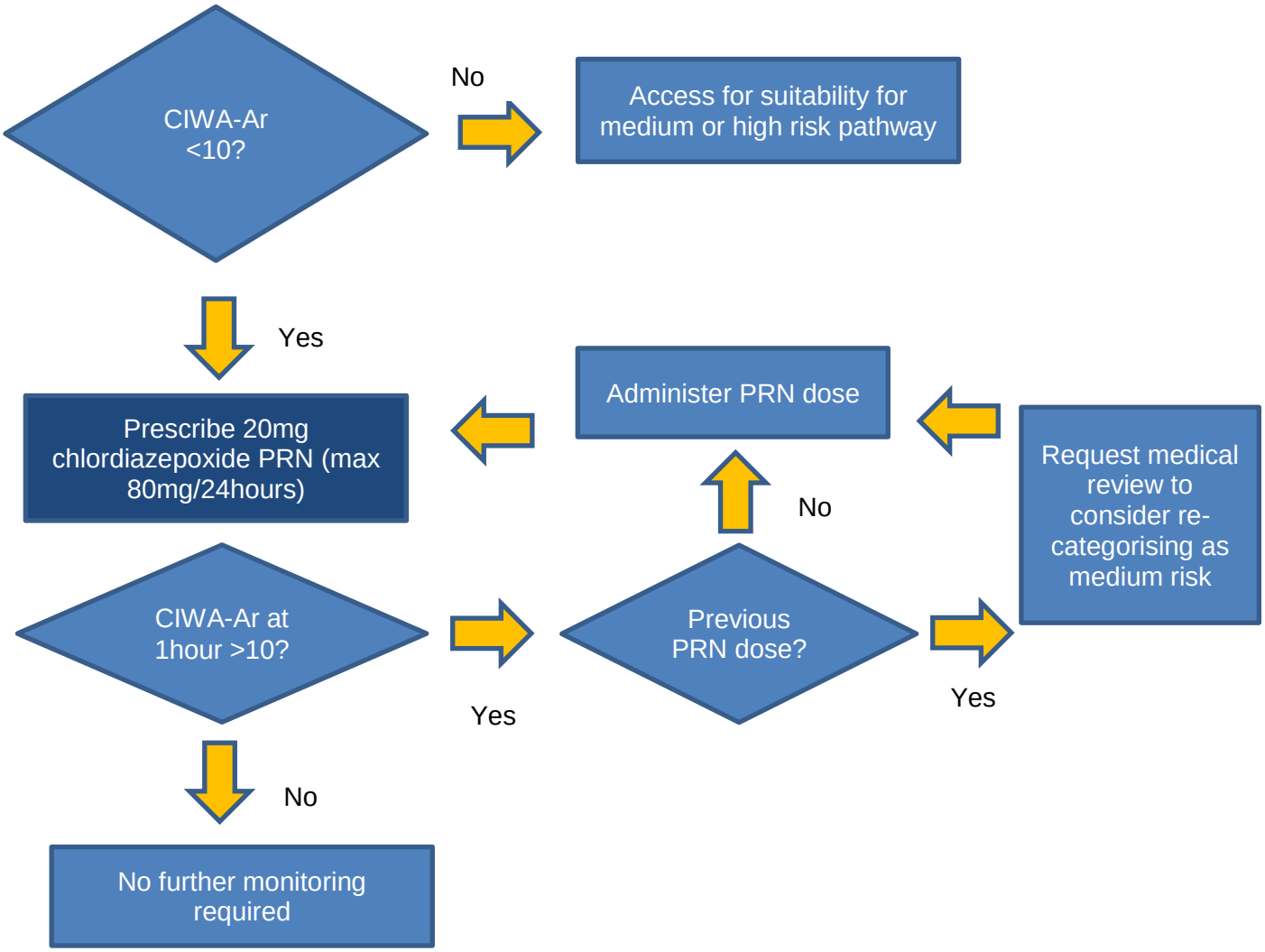


*If the patient is not responding to benzodiazepines, the receptor sites may be saturated and therefore further doses will not increase sedation and can lead to paradoxical agitation**. In this case, please use haloperidol.
NB: antipsychotic therapy should not routinely be used.

**Signs of paradoxical effects: talkativeness, excitement, increased aggression and being antisocial.

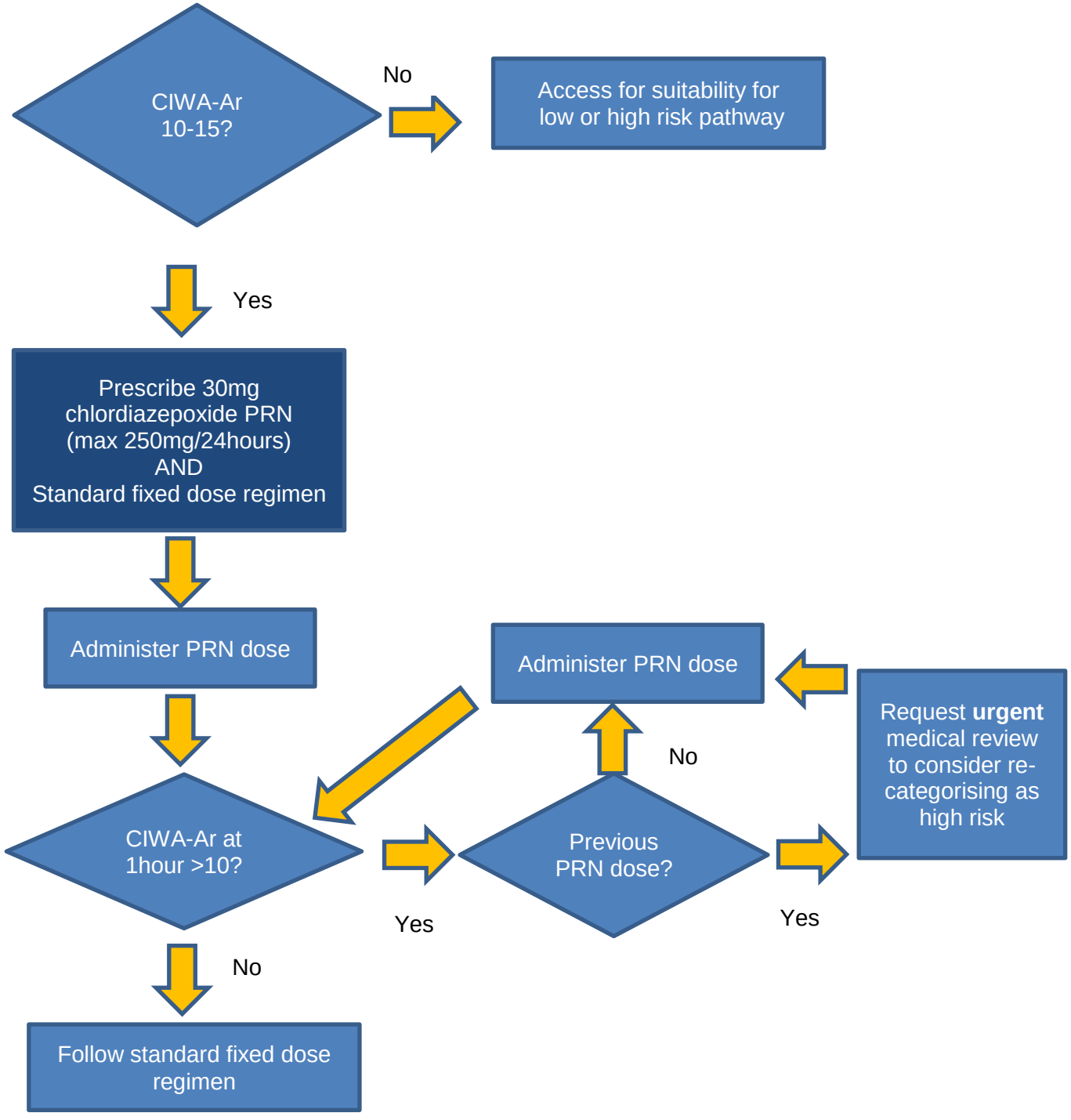
Appendix F: MONITORING AND MONITORING IN MILD (CIWA <10) RISK PATIENTS

There is no need for a fixed dose standard benzodiazepine regimen for this group of patients



Appendix G: PRESCRIBING AND MONITORING IN MODERATE (CIWA 10-15) RISK PATIENS

To be used in addition to regular chlordiazepoxide proforma overleaf



MODERATE (CIWA 10-15) ALCOHOL WITHDRAWAL PROTOCOL CHART

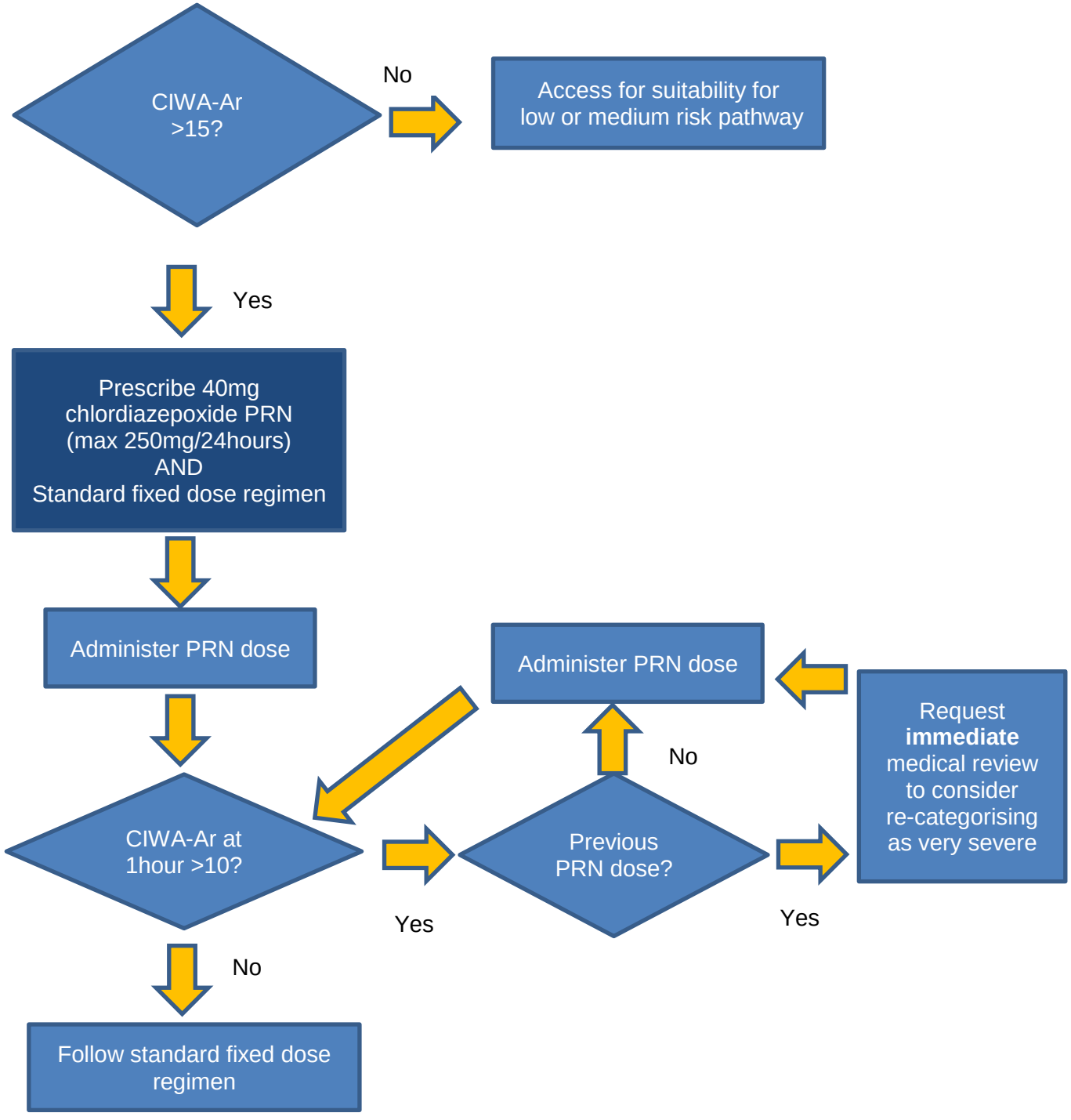
Patient:
Hospital No.:
Consultant:
Ward:

Attach to drug chart

DRUG (APPROVED NAME) **Chlordiazepoxide**		**Dose** 30mg	Additional information	Date						
				Day No	0	1	2	3	4	5
Prescribers name	Start date	Route PO		0800		X	X	X	X	X
				1200		X	X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600		X	X	X	X	X
				2200		X	X	X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 20mg	Additional information	Date						
				Day No	0	1	2	3	4	5
Prescribers name	Start date	Route PO		0800	X		X	X	X	X
				1200	X		X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X		X	X	X	X
				2200	X		X	X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 15mg	Additional information	Date						
				Day No	0	1	2	3	4	5
Prescribers name	Start date	Route PO		0800	X	X		X	X	X
				1200	X	X		X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X	X		X	X	X
				2200	X	X		X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 10mg	Additional information	Date						
				Day No	0	1	2	3	4	5
Prescribers name	Start date	Route PO		0800	X	X	X			X
				1200	X	X	X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X	X	X		X	X
				2200	X	X	X			

Appendix G: PRESCRIBING AND MONITORING IN HIGH (CIWA 15+) RISK PATIENS

To be used in addition to regular chlordiazepoxide proforma overleaf



SEVERE (CIWA15+) ALCOHOL WITHDRAWAL PROTOCOL CHART

Attach to drug chart

Patient:
Hospital No.:
Consultant:
Ward:

DRUG (APPROVED NAME) **Chlordiazepoxide**		**Dose** 40mg	Additional information	Date								
				Day No	0	1	2	3	4	5	6	7
Prescribers name	Start date	Route PO		0800			X	X	X	X	X	X
				1200		X	X	X	X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600		X	X	X	X	X	X	X
				2200			X	X	X	X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 20mg	Additional information	Date								
				Day No	0	1	2	3	4	5	6	7
Prescribers name	Start date	Route PO		0800	X	X		X	X	X	X	X
				1200	X			X	X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X			X	X	X	X	X
				2200	X	X		X	X	X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 15mg	Additional information	Date								
				Day No	0	1	2	3	4	5	6	7
Prescribers name	Start date	Route PO		0800	X	X	X		X	X	X	X
				1200	X	X	X		X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X	X	X		X	X	X	X
				2200	X	X	X		X	X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 10mg	Additional information	Date								
				Day No	0	1	2	3	4	5	6	7
Prescribers name	Start date	Route PO		0800	X	X	X	X		X	X	X
				1200	X	X	X	X		X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X	X	X	X		X	X	X
				2200	X	X	X	X		X	X	X
DRUG (APPROVED NAME) **Chlordiazepoxide**		Dose 10mg	Additional information	Date								
				Day No	0	1	2	3	4	5	6	7
Prescribers name	Start date	Route PO		0800	X	X	X	X	X			X
				1200	X	X	X	X	X	X	X	X
Signature	Bleep number	Frequency variable	Pharmacy	1600	X	X	X	X	X		X	X
				2200	X	X	X	X	X			

Appendix I – Suggested lorazepam regimens in severe liver impairment.

The tables below are guidelines only.

LOW RISK (CIWA <10) All doses oral/ sublingual lorazepam	
PRN dose (CIWA≥10)	0.5mg 2hourly. If more than 3 doses required, consider re-classifying as medium risk.

MEDIUM RISK (CIWA 10-15) All doses oral/ sublingual lorazepam							
Day	**1**	**2**	**3**	**4**	**5**	**6**	**7**
09:00	1mg	1mg	0.5mg	0.5mg	0.5mg	-	-
12:00	1mg	1mg	0.5mg	-	-	-	-
17:00	1mg	1mg	0.5mg	0.5mg	-	-	-
22:00	1mg	1mg	0.5mg	0.5mg	0.5mg	0.5mg	-
PRN dose (CIWA≥10)	1mg 2hourly	1mg 2hourly					

HIGH RISK (CIWA >15) All doses oral/ sublingual lorazepam							
Day	**1**	**2**	**3**	**4**	**5**	**6**	**7**
09:00	2mg	1.5mg	1mg	1mg	1mg	0.5mg	-
12:00	2mg	1.5mg	1mg	-	-	-	-
17:00	2mg	1.5mg	1mg	1mg	-	-	-
22:00	2mg	1.5mg	1mg	1mg	1mg	0.5mg	0.5mg
PRN dose (CIWA≥10)	2mg hourly	1mg 4hourly					

Appendix J – Suggested diazepam regimens for use in A&E and dose equivalence of chlordiazepoxide and diazepam.

The tables below are guidelines only.

Diazepam	Chlordiazepoxide	Lorazepam
5mg	12.5mg	500microgram

NB Inter-patient variability and differing half-lives mean these figures can never be exact. They should be interpreted using clinical and pharmaceutical knowledge.

Mild dependency (CIWA <10) All doses oral diazepam							
Day	**1**	**2**	**3**	**4**	**5**	**6**	**7**
09:00	5-10mg	5mg	5mg	5mg	-	-	-
12:00	5-10mg	5mg	-	-	-	-	-
17:00	5-10mg	5mg	5mg	-	-	-	-
22:00	5-10mg	5mg	5mg	5mg	5mg	-	-

Moderate dependency (CIWA 10-15) All doses oral diazepam							
Day	**1**	**2**	**3**	**4**	**5**	**6**	**7**
09:00	10-15mg	10mg	10mg	10mg	5mg	-	-
12:00	10-15mg	10mg	-	-	-	-	-
17:00	10-15mg	10mg	10mg	-	-	-	-
22:00	10-15mg	10mg	10mg	10mg	5mg	5mg	-

NB For older/ frail people, consider starting at lower doses of diazepam.

Severe dependency (CIWA >15) All doses oral diazepam							
Day	**1**	**2**	**3**	**4**	**5**	**6**	**7**
09:00	20mg	15-20mg	15mg	10mg	10mg	10mg	-
12:00	20mg	15-20mg	15mg	10mg	-	-	-
17:00	20mg	15-20mg	15mg	10mg	10mg	-	-
22:00	20mg	15-20mg	15mg	10mg	10mg	10mg	10mg

Appendix K – Childs Pugh score

Parameter	Score		
	1	2	3
Ascites	None	Mild	Moderate or severe
Encephalopathy (grade)	None	1-2	3-4
Bilirubin (micromol/L) **OR** Bilirubin in Primary Biliary Cirrhosis (micromol/L)	<35 <70	35-50 70-170	>50 >170
Albumin (g/L)	>35	28-35	<28
INR	<1.7	1.8-2.3	>2.3

Child-Pugh grade	Child-Pugh score		1 year survival	5 year survival	10 year survival
A	5-6	Indicates a well-functioning liver	84%	44%	27%
B	7-9	Indicates significant functional compromise	62%	20%	10%
C	10-15	Indicates decompensation of the liver	42%	21%	0%

The Child-Pugh score should be periodically reassessed as the patient's clinical condition may improve or deteriorate with time.

Reference: Specialist Pharmacy Service (SPS), October 2020. What is the Child-Pugh score? Prepared by UK Medicines Information (UKMi) UKMI_QA_What_is_the_Child-Pugh_score_update_October_2020.pdf (sps.nhs.uk)

7. References

1. British Medical Journal (BMJ) 2020. Wernicke's encephalopathy treatment algorithm. Accessed online: https://bestpractice.bmj.com/topics/en-gb/405/treatment-algorithm (21/11/20)
2. Darrick K, Chung R. December 2017. Use of proton pump inhibitors in chronic liver diseases. Review. *Clinical Liver Disease,* Vol 10(6):pp148-51
3. East Cheshire NHS Trust – Guidelines for Alcohol Withdrawal
4. Electronic Medicines Compendium (EMC) Home - electronic medicines compendium (emc)
5. Guy's and St Thomas' NHS Foundation Trust guidelines for Alcohol withdrawal symptoms and treatment of Wernicke's Encephalopathy
6. Irish Association for Emergency Medicine (IAEM) Clinical Guideline. Management of Acute Alcohol Withdrawal Syndrome in the Emergency Department. Version 1, October 2019. Accessed online http://www.iaem.ie/wp-content/uploads/2019/12/IAEM-AWS.pdf (19/11/20)
7. Joint Formulary Committee. British National Formulary. [Online] April 2021. London: BMJ Group and Pharmaceutical Press; Accessed 13/4/21.
8. Latt N, Dore G. June 2014. Thiamine in the treatment of Wernicke encephalopathy in patients with alcohol use disorders. *Internal Medicine Journal* 44(9):911-5 Thiamine in the treatment of Wernicke encephalopathy in patients with alcohol use disorders - PubMed (nih.gov)
9. London North West Healthcare NHS Trust – Management of Acute Alcohol Withdrawal
10. Mayo-Smith MF (1997) Pharmacological management of alcohol withdrawal. A meta-analysis and evidence-based practice guideline. *JAMA;* 278(2): 144-51
11. National Institute of Clinical Excellence (NICE) 2017. Clinical guideline [CG100]. Alcohol-use disorders: diagnosis and management of physical complications. Accessed online https://www.nice.org.uk/guidance/CG100 (19/11/20)
12. National Institute of Clinical Excellence (NICE) 2011. Clinical guideline [CG115]. Alcohol-use disorders: diagnosis, assessment and management of harmful drinking (high risk drinking) and alcohol dependence. Accessed online 1 Guidance | Alcohol-use disorders: diagnosis, assessment and management of harmful drinking (high-risk drinking) and alcohol dependence | Guidance | NICE (23/11/20)
13. NICE QS11 alcohol use disorders: diagnosis and management August 2011 Quality statement 9: Medically assisted alcohol withdrawal – drug regimens | Alcohol-use disorders: diagnosis and management | Quality standards | NICE
14. Norfolk and Norwich University Hospitals NHS Foundation Trust, 2019. Management of acute alcohol withdrawal (excluding pregnancy)
15. Public Health England. October 2020. Alcohol use screening tests. Alcohol use disorders identification test (AUDIT) Alcohol_use_disorders_identification_test_for_consumption__AUDIT_C_.pdf (publishing.service.gov.uk)
16. Reoux J. April 2010. Routine Hospital Alcohol Detoxification Practice Compared to Symptom Triggered Management with an Objective Withdrawal Scale (CIWA-Ar). The American Journal on Addictions Vol 9(2) pp135-44
17. Specialist Pharmacy Service (SPS), October 2020. What is the Child-Pugh score? Prepared by UK Medicines Information (UKMi) UKMI_QA_What_is_the_Child-Pugh_score_update_October_2020.pdf (sps.nhs.uk)

18. Specialist Pharmacy Service (SPS) Regional Medicines Optimisation Committee (RMOC) Position Statement. November 2019. Oral vitamin B supplementation in alcoholism. Accessed online https://www.sps.nhs.uk/wp-content/uploads/2019/12/RMOC-position-statement-oral-vitamin-B-supplementation-in-alcoholism-v1.0-1.pdf (20/11/20)
19. Sullivan, J.T.; Sykora, K.; Schneiderman, J.; Naranjo, C.A.; and Sellers, E.M. Assessment of alcohol withdrawal: The revised Clinical Institute Withdrawal Assessment for Alcohol scale (CIWA-Ar). British Journal of Addiction 84:1353-1357, 1989
20. Taylor D, Paton C, Kapur S. The Maudsley Prescribing Guidelines in Psychiatry. 11th Edition. Wiley-Blackwell; 2012 p. 307-8
21. The NEWT guidelines NEWT Guidelines
22. Thomson A, Cook C, Touquet R, et al. November 2002. The Royal College of Physicians report on alcohol: guidelines for managing Wernicke's encephalopathy in the accident and emergency department. *Alcohol and Alcoholism*. Vol 37(6), PP513-521. Accessed online https://academic.oup.com/alcalc/article/37/6/513/204967 (19/11/20)
23. University Hospitals Bristol NHS Foundation Trust. 2012. Clinical protocol. Wernicke's Encephalopathy (WE) and Pabrinex. Accessed online https://remedy.bnssgccg.nhs.uk/media/2127/alcohol-assessment-brief-intervention.pdf (19/11/20)
24. University Hospitals Sussex NHS Foundation Trust, UHSx Intranet – Microguide.
25. Western Sussex Hospitals Trust August 2020. Alcohol Withdrawal Syndrome: management guideline for adults.
26. Yuen T So. February 2020. UpToDate, Wernicke Encephalopathy. Accessed online: https://www.uptodate.com/contents/wernicke-encephalopathy?search=wernicke%20encephalopathy&source=search_result&selectedTitle=1~58&usage_type=default&display_rank=1 (22/11/20)
27. Thomson, A., 2002. THE ROYAL COLLEGE OF PHYSICIANS REPORT ON ALCOHOL: GUIDELINES FOR MANAGING WERNICKE'S ENCEPHALOPATHY IN THE ACCIDENT AND EMERGENCY DEPARTMENT. *Alcohol and Alcoholism*, 37(6), pp.513-521.