

Northern Ireland Alcohol Use Disorders Care Pathway – management in the acute hospital setting

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1. Introduction

The management of alcohol misuse and alcohol related morbidity places a significant burden on our acute hospitals. Northern Ireland has seen a steady increase in the prevalence of alcohol related illnesses and alcohol related hospital admissions have increased 61% between 2000/01 and 2009/10. Between 1994 and 2012 the number of alcohol related deaths in Northern Ireland more than doubled.

The Health and Social Care service has already taken steps to rise to this challenge. Substance Misuse Liaison Nurse (SMLN) Services have been embedded in all hospital trusts in Northern Ireland. In reality, the services are incomplete/under-funded - still need Phase II funding. Each trust has now developed a multidisciplinary Alcohol Care Team and these have proved critical in forming and implementing alcohol strategy on a local basis. It is in this context that this regional pathway has been developed to ensure the care clinicians deliver to patients with alcohol use disorders is standardised and informed by evidence-based best practice. Whilst it is acknowledged that alcohol is a causal factor in more than 60 diseases or injuries it would be beyond the scope of this pathway to deal with each of these. Instead it will focus primarily on providing guidance on alcohol screening and the optimal management of the most common forms of alcohol related morbidity encountered in both emergency departments and the inpatient setting.

Implementation

These guidelines are designed to be available for regional use. The decision as regards adoption and operational implementation of the guidelines will be at the discretion of each of the 5 Health and Social Care Trusts at a local level. They will be available on the Public Health Agency website and locally on Trust Intranets. The approach to this patient group is multidisciplinary, requiring medical, nursing, pharmacy and psychiatry input.

2. Alcohol Withdrawal Syndrome (AWS):

- Usually begins within 6 to 8 hours after an abrupt reduction in alcohol intake
- Can be earlier in severe dependence or may not manifest for up to 72 hours
- Can develop before the blood alcohol level has fallen to zero
- Generally peaks within 10 to 30 hours and lasts for 3 to 7 days

Mild to moderate symptoms

- Tremulousness of hands, arms, legs. May include head and trunk
- Sweating
- Insomnia, nightmares
- Nausea, retching, vomiting, diarrhoea
- Autonomic disturbance (pyrexia, tachycardia, hypertension)
- Muscle pain
- Hyperactivity, anxiety and agitation

Severe symptoms

2.1 Delirium Tremens (DTs)

- 24 – 72 hours after alcohol cessation or decreased intake
- Can last for 3-5 days
- Fatal in 15-20% of inappropriately managed patients:
 - Coarse tremor
 - Fear, paranoid thinking and agitation
 - Disorientation in time, person and place, especially at night
 - Clouding of consciousness
 - Visual illusions, misperceptions, hallucinations
 - Tachycardia, fever and hypertension
 - Profuse sweating and dehydration
 - Risk of circulatory collapse, ketoacidosis

Risk factors for progression to DTs:

- >75 years old
- Drinking more than 20 units per day
- Previous severe DTs or withdrawal seizures
- Wernicke's encephalopathy

- Multiple substance addiction/overdose
- Significant physical co-morbidity
- High levels of anxiety
- Electrolyte disturbances
- Multiple alcohol detoxifications

2.2 Seizures

- Between 12 and 48 hours after alcohol cessation or decreased intake
- Tend to be generalised
- Predisposing factors - hypoglycaemia, hypocalcaemia, hypomagnesaemia and history of epilepsy

2.3 Wernicke's Encephalopathy

- Medical emergency
- May be difficult to distinguish from intoxication
- Classical clinical triad rarely seen
- If inappropriately managed - permanent brain damage (Korsakoff's Amnesic Disorder / Alcohol Related Brain Damage)
- Initially reversible with parenteral B vitamins
- If uncertain, commence treatment

Symptoms:

- Clouding of consciousness, global confusional state
- Ataxia of gait
- Nystagmus, ocular nerve palsies
- Hypothermia, hypotension
- Reduced conscious level, coma or unconsciousness

Risk factors for development of Wernicke's:

- Signs of malnourishment or risk of malnourishment
- High carbohydrate intake
- Persistent vomiting so as to be unable to sustain regular oral intake/severe diarrhoea
- Recent significant weight loss
- Reduced BMI < 18.5
- Homelessness
- Alcohol-related liver disease / associated acute illness / chronic ill health
- Peripheral neuropathy

3. Alcohol Screening and Brief Intervention

3.1 Alcohol screening and indications for SMLN referral

Mirroring NICE guidance (PH 24, 2010) all patients admitted to an acute hospital should be offered alcohol screening using the AUDIT-C. Screening of all ED attenders is highly desirable.

AUDIT-C

Questions	Scoring system					Your score
	0	1	2	3	4	
How often do you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
How many units/drinks of alcohol do you drink on a typical day when you are drinking?	1 - 2	3 - 4	5 - 6	7 - 9	10+	
How often have you had 6 or more units/ drinks 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	

Score ≥ 5 Harmful drinkers - offer brief advice
 ≥ 8 **Dependent drinkers** - **offer brief advice and referral to SMLN**

Regular drinking should not exceed 14 units a week for men and women.



**1 x pint (568ml)
standard beer**
4% alcohol = 2.3 units



1 x small bottle (187.5ml) wine
12% alcohol = 2.3 units



1 x measure (35ml) vodka
37.5% alcohol = 1.3 units

For further information visit www.knowyourlimits.info 

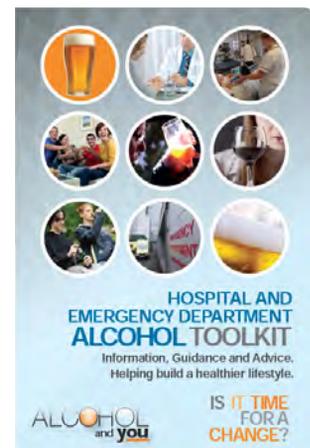
3.2 Brief Intervention

Brief intervention is an umbrella term for two main types of heterogeneous content: brief advice or extended brief intervention. Brief advice is commonly delivered by staff working in front line settings, typically lasting not more than 5 minutes. The goal of brief advice is to raise awareness of the association between the expressed problems and substance abuse and to recommend change.

Extended brief intervention is delivered by SMLNs and is motivationally-based. The aim is to motivate patients to change their behaviour by exploring with them why they behave the way they do and identifying positive reasons for making change. The key components can be summarised by the acronym FRAMES (feedback, responsibility, advice, menu, empathy, and self-efficacy).

Brief Advice Tools

The NCEPOD Measuring the Unit Report (2013) demonstrated that 71% of those who eventually died from alcohol related liver disease attended hospital at least once in the 2-years before their final admission. It concluded that opportunities were missed to engage this often difficult to reach population. Employing written brief advice tools in Emergency Departments managing large volumes of patients presenting with alcohol related morbidity offers an invaluable opportunity to raise awareness of alcohol related harm.



The Alcohol Brief Advice Tool reflects NICE guideline recommendations (CG115, 2011) for effective behavioural change. It was adapted in 2016 to incorporate the UK Chief Medical Officers' low risk drinking guidelines, in consultation with substance misuse liaison staff regionally. Use of a patient information leaflet should be regarded as a component of brief advice and not as a substitute – unless a patient does not wish to discuss further.

The Alcohol and You website

The Alcohol Brief Advice Tool has the additional benefit of directing patients to a menu of options for support, including the 'Alcohol and You' website (www.alcoholandyouni.com) and its self-help section. Utilising the FRAMES methodology, the 'Alcohol and You' website has the potential to allow the patient to access a web-based intervention.

4. Alcohol Withdrawal Syndrome scoring systems

There are several scoring systems available for measuring the degree of alcohol withdrawal. For the purposes of this document we have chosen to refer to the Glasgow modified alcohol withdrawal scale (GMAWS). CIWA-Ar (Appendix 2) CIWA is a viable alternative and used in some HSC Trusts.

Glasgow Modified Alcohol Withdrawal Scale (GMAWS)

- Guide to measuring the severity of alcohol withdrawal symptoms.
- Assess the patient and rate each of the 5 criteria on the GMAWS scale.
- Add the score for each criterion to give the total GMAWS score for the patient.
- The maximum possible score is 10.
- GMAWS score can then be used in guiding benzodiazepine dosing.

Glasgow Modified Alcohol Withdrawal Score

Tremor 0) No tremor 1) On movement 2) At rest	
Sweating 0) No sweat visible 1) Moist 2) Drenching sweats	
Hallucination 0) Not present 1) Dissuadable 2) Not dissuadable	
Orientation 0) Orientated 1) Vague, detached 2) Disorientated, no contact	
Agitation 0) Calm 1) Anxious 2) Panicky	
Score	
Treatment	

- Score 0:** Repeat score in 2 hours.
Discontinued after scoring 0 on 4 consecutive occasions, except if less than 48hrs after last drink.
- 1-3:** Indicates mild withdrawal.
- 4-6:** Indicates moderate withdrawal.
- 7-10:** Indicates severe withdrawal.

5. Management of Alcohol Withdrawal Syndrome

5.1 Community Management of AWS

- Alcohol dependent but do not require admission to hospital
- Based on GMAWS scoring
- If patient presents to hospital with features of AWS, but not admitted give three days' supply of chlordiazepoxide, make GP appointment and liaise with community addiction services.

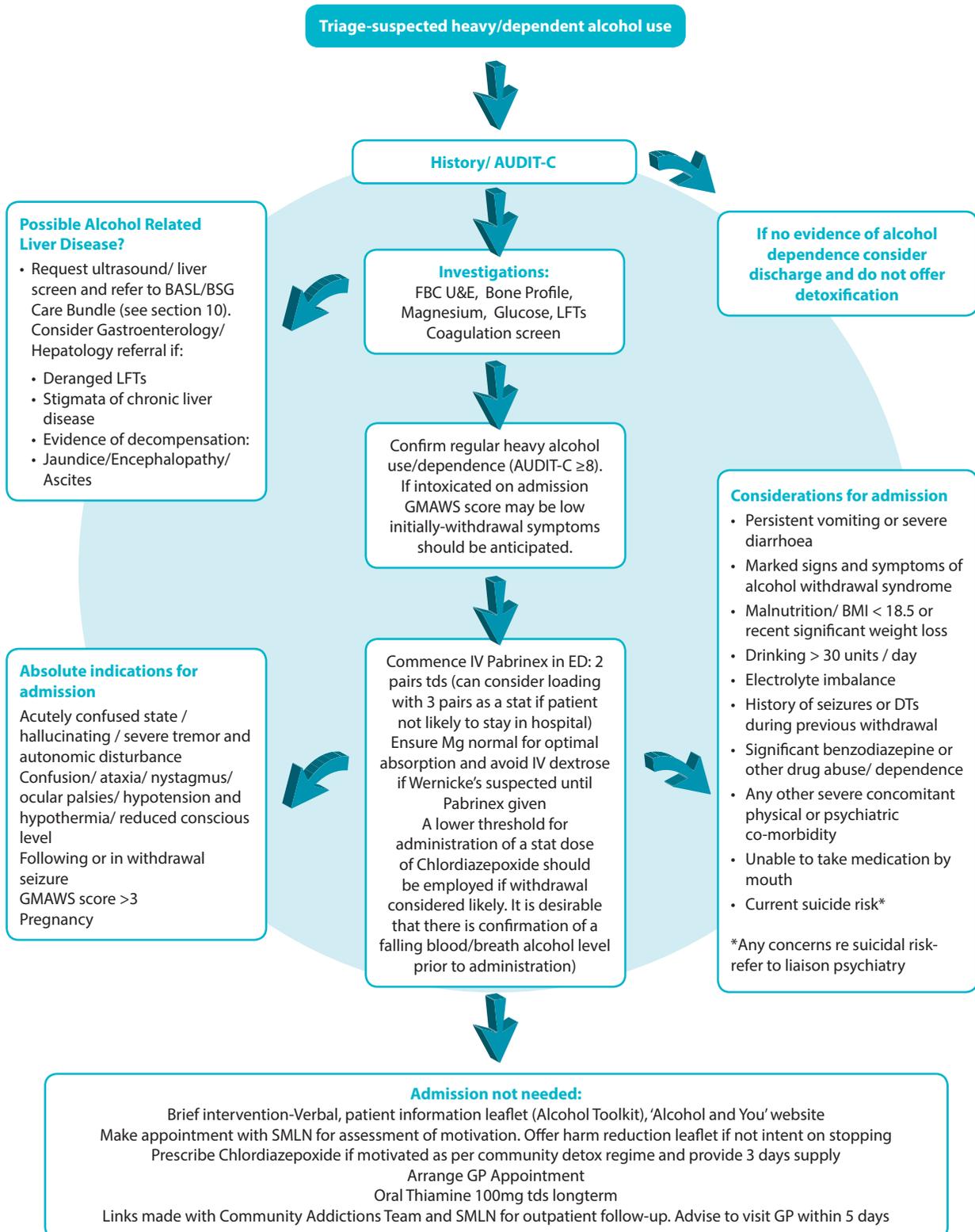
Please refer to local trust policy as there is variation in Community Addiction services

http://primarycare.hscni.net/structured_brief_advice.htm

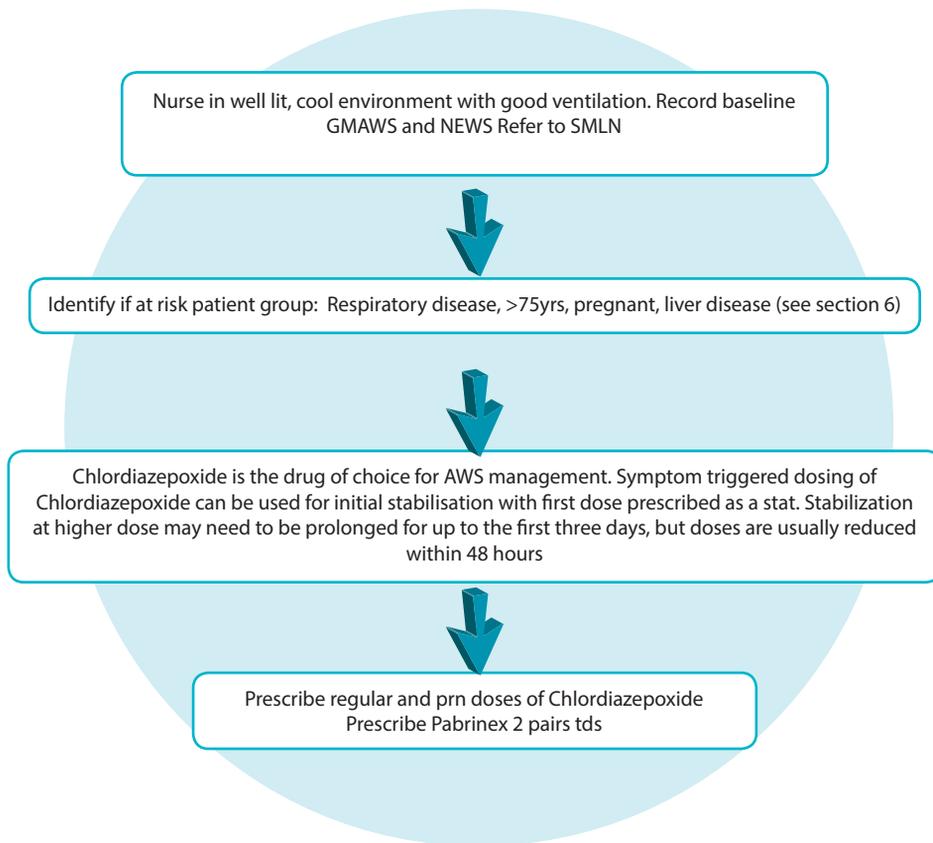
Chlordiazepoxide dosing for community detoxification

Day 1	30mg qds
Day 2	20mg qds
Day 3	20mg tds
Day 4	10mg qds
Day 5	10mg bd

5.2 Emergency Department Management of AWS



5.3 Inpatient Management of AWS



Examples of dosing regimens for management of AWS

Mild symptoms (GMAWS 1-3):	Chlordiazepoxide:
Day 1	20mg stat then 20mg four times daily for 24hrs with 20mg stat on a prn basis
Day 2	20mg three times daily for 24hrs
Day 3	10mg four times daily for 24hrs then stop
PRN doses 2hourly prescribed at the equivalent of regular dose	

Moderate symptoms (GMAWS 4-6):	Chlordiazepoxide:
Day 1	30mg stat then 30mg four times daily for 24hrs with 30mg stat on a prn basis
Day 2	20mg four times daily for 24hrs
Day 3	20mg three times daily for 24hrs
Day 4	10mg four times daily for 24hrs then stop
PRN doses 2hourly prescribed at the equivalent of regular dose	

Severe symptoms (GMAWS 7-10):	Chlordiazepoxide:
Day 1	40mg stat then 40mg four times daily for 24hrs with 40mg stat on a prn basis
Day 2	30mg four times daily for 24hrs
Day 3	20mg four times daily for 24hrs
Day 4	20mg three times daily for 24hrs
Day 5	10mg four times daily for 24hrs then stop
PRN doses 2hourly prescribed at the equivalent of regular dose	

Lorazepam detoxification	Lorazepam 1-2 mg PO/IM/IV three times daily PRN: 1 mg / 2hourly BUT no more than 8mg daily MAXIMUM
Day 1	1-2 mg (three times daily)
Day 2	1-2 mg (three times daily)
Day 3	Reduce by 1 mg per day
Day 4	Reduce by 1 mg per day
Day 5	Reduce by 1 mg per day
Day6	Reduce by 1mg for 1 day, then stop



Prescribe PRN dosing

Any dose of breakthrough benzodiazepine medication should be the same as the regularly prescribed dose on that particular day eg: Chlordiazepoxide 40mg po qds and 40mg po 2 hourly PRN.

Maximum 280mg of Chlordiazepoxide in 24hours (higher doses only to be used on consultant recommendation)

Any increase in the GMAWS score should prompt the additional administration of PRN doses

If more than three PRN doses of Chlordiazepoxide have been administered in 24hrs, increase the regularly prescribed dose



GMAWS and NEWS every 4 hours routinely, increasing frequency if withdrawal progresses

GMAWS score :

Remains unchanged or decreases
4-6
>6
0

continue with the prescribed dose, 4 hourly scores
2 hourly scores
hourly scores
for 3 consecutive readings scoring can stop



Dose omission- asleep/drowsy



Withdrawal not controlled with first line medication



Seizures

Increase the frequency and dose of Chlordiazepoxide if not maximised eg 50-60mg qds, 60mg 2hourly PRN if required (maximum 280mg in 24hours as per BNF). If requiring higher doses discuss with senior/ addictions specialist.

Review the patient's diagnosis for the presence of any psychotic illness or other organic pathology

Night Sedation

In the event of nocturnal agitation increase the nocte dose of Chlordiazepoxide

Ongoing withdrawal symptoms- Medication change

Second line: Lorazepam

2-4mg PO/ IM/ IV

Repeat if required up to 2 doses at 30 minute intervals

Oral before the IM route

The IM route should not be used in patients with bleeding/ clotting disorders

No response to benzodiazepine

Third line: Haloperidol

Troublesome hallucinations, severe agitation or patient refractory to the above benzodiazepine loading schedule
PO/IM Haloperidol in addition to the regularly prescribed benzodiazepine.

Use with caution and only short-term due to the risk of decreasing seizure threshold, with baseline ECG as haloperidol contraindicated in prolonged QT syndrome

Haloperidol dose IM in elderly should start at 0.5mg-1mg

Olanzapine (administered PO or IM) can be considered as an alternative in patients who have contra-indications to the use of Haloperidol. Refer to BNF for prescribing guidance. It should **not** be administered IM within 1 hour of parenteral benzodiazepines.

Patient should remain in acute medical ward or admission ward until they are stable with a GMAWS score of <4.

Discuss with Intensive care team if:

-Withdrawal not responding to standard therapy

-Requiring extremely high levels of medication to control withdrawal and showing signs of respiratory depression or airway compromise

-High risk groups

Isolated seizures- continue with the standard regimen/ increase the dose

Prolonged or recurrent seizures - Lorazepam 2-4mg IV as a single dose and repeat with a second dose after 15 minutes if required.

If seizing is prolonged (status epilepticus) seek senior medical advice.

Adult Haloperidol Dose

Route	Dose	Frequency	Max/24hrs
Oral	500micrograms to 5mg	8 to 12 hourly	20mg
IM	2 to 10mg	4 to 8 hourly	12mg

Elderly >75yrs

Route	Dose	Frequency	Max/24hrs
Oral	500micrograms to 2.5mg	8 to 12 hourly	15mg
IM	500micrograms to 5mg	4 to 8 hourly	12mg

Significant Liver Impairment

Route	Dose	Frequency	Max/24hrs
Oral	500micrograms	8 to 12 hourly	2mg

6. Thiamine (Pabrinex®) prescribing for AWS patients

Dose	Frequency	Route	Duration
2 x pairs (amps 1 and 2)	Three times daily	IV infusion over 30mins in 100mls of sodium chloride 0.9%	5 days or until improvement plateaus out Treat beyond 5 days if suspected ARBD and reassess every 3 days
<p>Oral thiamine is not adequate. Can be given IM if venous access not obtained (1 pair)</p> <p>Prolonged Pabrinex treatment beyond 5 days can be given once daily</p> <p>Continue Pabrinex in ARBD until cognition improvement plateaus (regular scoring assessments)</p>			

7. Detoxification in complex groups

<p>Liver Impairment</p>	<p>Mild/moderate liver disease - half doses of Chlordiazepoxide or use Lorazepam</p> <p>Decompensated liver cirrhosis monitor closely and consider symptom triggered approach using lowest possible prn dosages</p> <p>Monitor very closely for signs of over sedation</p>
<p>Respiratory disease</p>	<p>Lowered doses of Chlordiazepoxide, Lorazepam or symptom triggered approach</p>
<p>Pregnant patients</p>	<p>Inpatient management by Obstetrics in close collaboration with SMLN with continuous monitoring of the foetus, especially in later pregnancy</p> <p><i>Benzodiazepines</i> AWS should be managed with Chlordiazepoxide in pregnancy as the preponderance of evidence points to low teratogenic risk</p> <p>In cases of alcohol withdrawal treated close to delivery, there should be close monitoring of the neonate for floppy baby syndrome and benzodiazepine withdrawal syndrome</p>
<p>Elderly patients (>75 years old or >65 with frailty)</p>	<p>Vulnerable to the effects of over-sedation</p> <p>Reduced capacity to metabolise and eliminate benzodiazepines</p> <p>Reduce usual sedation doses by half</p> <p>Dosage intervals can also be increased if necessary</p> <p>Consider Lorazepam as an alternative to Chlordiazepoxide</p>

Children and young people	Doses should be lower than that provided for patients older than 16years
Benzodiazepine dependent patients	Best managed with one benzodiazepine (Chlordiazepoxide or Diazepam) rather than multiple. Increase the dose of benzodiazepine medication used for withdrawal. Calculate the initial daily dose based on the requirements for alcohol withdrawal plus the equivalent regularly used daily dose of benzodiazepine.
Patients 'Nil by mouth'	<p>Regular or PRN IV diazepam/ lorazepam</p> <p>Diazepam 2-10mg slow IV into a large vein over 2 minutes</p> <p>Repeat after an interval of not less than 4 hours if no improvement.</p> <p>Flumazenil should always be available along with facilities for resuscitation. Refer to ICU if requiring flumazenil</p> <p>Diazepam Injection is contraindicated in severe liver impairment.</p>

Benzodiazepine Conversion table

Benzodiazepine	Dose equivalent to chlordiazepoxide 15mg
Lorazepam	500 micrograms
Diazepam	5mg
Nitrazepam	5mg
Temazepam	10mg
Zopiclone	7.5mg

8. Discharge Planning

Medication on discharge for patients initiated on detoxification during admission:

- All patients should be prescribed oral Thiamine 100 mg tds;
- Prescribe the minimum amount of benzodiazepine to complete the reducing course on discharge - give 1-2 days supply;
- Arrange a follow up GP appointment and SMLN appointment.
- Lorazepam has a higher addictive potential and should generally not be prescribed at discharge. Patients may be switched to equivalent dose Chlordiazepoxide (see table on preceding page) to complete the reducing course;
- Patients should be advised to complete the course and of the significant risks associated with drinking on top of benzodiazepines.

Exceptions	Maximum Supply
<ul style="list-style-type: none"> • History of overdose • Previous history of benzodiazepine dependence/ abuse/ diversion • No social support 	<ul style="list-style-type: none"> • 1-2 days supply • Advise patient to attend GP ASAP • Liaise with SMLN
<ul style="list-style-type: none"> • Expressed or strongly suspect intention to divert dispensed medicine • Intention to continue drinking 	<ul style="list-style-type: none"> • No supply • Justification for this must be clearly documented in the medical notes

Relapse prevention

An onward referral to the Community Alcohol Team (CAT) should be offered.

In combination with psycho-social intervention there is evidence to suggest Acamprosate prevents relapse in early abstinence. Initiation of Acamprosate 666mg TDS should be considered by the discharging team if the patient accepts referral to CAT services;

- Contra-indicated in Child Pugh class C liver cirrhosis and severe renal impairment (eGFR \leq 30ml/min)
- moderate renal impairment (eGFR 30-50ml/min) dose reduce to 333mg TDS
- <60kg dose reduce to 666mg morning, 333mg at noon, and 333mg at night.

Alternative forms of pharmacological intervention should only be initiated at the discretion of a consultant addiction psychiatrist.

9. Alcohol Related Brain Damage (ARBD)

Most patients with ARBD admitted to acute medical and surgical care are rarely recognised as having ARBD and are not referred to appropriate service providers that can facilitate care plans and follow-up. Hence screening is recommended for high-risk patients.

- All patients with AUDIT-C ≥ 8 should be screened for cognitive damage using the six item Cognitive Impairment Test (6CIT) by a SMLN when physically stabilised.
- This should be supported by a primary diagnostic process which includes appropriate physical and radiological (scanning) investigations, a psychosocial review (including examination of frontal lobe function), and engaging carers or family where appropriate.
- All patients with a 6CIT ≥ 8 should have a Montreal Cognitive Assessment (MOCA) (appendix 3).
- A formal assessment of capacity may be necessary in patients presenting with ARBD. Determining which service undertakes this will be left to the discretion of each Trust.

Six Item Cognitive Impairment Test (6CIT)

Question	Score Range	Score
1. What year is it?	0 – 4 Correct - 0 points Incorrect - 4 points	
2. What month is it?	0 – 3 Correct - 0 points Incorrect - 3 points	
3. Give the patient an address phrase to remember with 5 components, eg John, Smith, 42, High Street, Bedford		
4. About what time is it (within 1 hour)	0 – 3 Correct - 0 points Incorrect - 3 points	
5. Count backwards from 20 – 1	0 – 4 Correct - 0 points 1 error - 2 points More than 1 error - 4 points	
6. Say the months of the years in reverse	0 – 4 Correct - 0 points 1 error - 2 points More than 1 error - 4 points	
7. Repeat address phrase John, Smith 42, High Street, Bedford	0 – 10 Correct - 0 points 1 error - 2 points 2 errors - 4 points 3 errors - 6 points 4 errors - 8 points All wrong - 10 points	
TOTAL SCORE	0 – 28	/28

Outcome from Score

0 – 7	Normal
8 – 9	Mild cognitive impairment
10 – 28	Significant cognitive impairment

10. Alcohol Related Liver Disease

Decompensated Cirrhosis Care Bundle - First 24 Hours

The recent NCEPOD report 2013 on alcohol related liver disease highlighted that the management of some patients admitted with decompensated cirrhosis in the UK was suboptimal. Admission with decompensated cirrhosis is a common medical presentation and carries a high mortality (10-20% in hospital mortality). Early intervention with evidence-based treatments for patients with the complications of cirrhosis can save lives. This checklist aims to provide a guide to help ensure that the necessary early investigations are completed in a timely manner and appropriate treatments are given at the earliest opportunity.

- Decompensated cirrhosis is defined as a patient with cirrhosis who presents with an acute deterioration in liver function that can manifest with the following symptoms:
 - Jaundice
 - Increasing ascites
 - Hepatic encephalopathy
 - Renal impairment
 - GI bleeding
 - Signs of sepsis/hypovolaemia
- Frequently there is a precipitant that leads to the decompensation of cirrhosis. Common causes are:
 - GI bleeding (variceal and non-variceal)
 - Infection/sepsis (spontaneous bacterial peritonitis, urine, chest, cholangitis etc)
 - Alcoholic hepatitis
 - Acute portal vein thrombosis
 - Development of hepatocellular carcinoma
 - Drugs (Alcohol, opiates, NSAIDs etc)
 - Ischaemic liver injury (sepsis or hypotension)
 - Dehydration
 - Constipation

When assessing patients who present with decompensated cirrhosis look for the precipitating causes and treat accordingly. The checklist shown overleaf gives a guide on the necessary investigations and early management of these patients admitted with decompensated cirrhosis and should be completed on all patients who present with this condition.

The checklist is designed to optimize a patient's management in the first 24 hours when specialist liver/gastro input might not be available. Arrange for a review of the patient by the gastro/liver team at the earliest opportunity. Escalation of care to higher level should be considered in patients not responding to treatment when reviewed after 6 hours, particularly in those with first presentation and those with good underlying performance status prior to the recent illness.

Patient details



Decompensated Cirrhosis Care Bundle - First 24 Hours

Decompensated cirrhosis is a medical emergency with a high mortality. Effective early interventions can save lives and reduce hospital stay. This checklist should be completed for all patients admitted with decompensated cirrhosis within the first 6 hours of admission.

1. Investigations								Initials:
a)	NEWS <input type="checkbox"/>	FBC <input type="checkbox"/>	U/E <input type="checkbox"/>	LFT <input type="checkbox"/>	Coag <input type="checkbox"/>	Gluc <input type="checkbox"/>	Ca/PO ₄ /Mg <input type="checkbox"/>	Time:
b)	Blood cultures <input type="checkbox"/>			Urine Dip/MSU <input type="checkbox"/>	CXR <input type="checkbox"/>	Request USS abdo <input type="checkbox"/>	CRP <input type="checkbox"/>	
c)	Perform ascitic tap in all patients with ascites using green needle irrespective of clotting parameters and send for ascitic PMN/WCC, culture and fluid albumin						Done Y N	N/A <input type="checkbox"/>
d)	Record recent daily alcohol intake			 Units			
2. Alcohol - if the patient has a history of current excess alcohol consumption (>8 units/day Males or >6 units/day Females)								Initials:
								Time:
								Initials:
								Time:
a)	Give IV Pabrinex (2 pairs of vials three times daily)						Y N	
b)	Commence GMAWS score if evidence of alcohol withdrawal						Y N	N/A
3. Infections - if sepsis or infection is suspected								Initials:
								Time:
a)	What was the suspected source?.....							
b)	Treat with antibiotics in accordance with Trust protocol						Y N	
c)	If the ascitic neutrophils >0.25 x 10 ⁹ /L (>250/mm ³)(i.e. SBP) then give:						Y N	
	i)	Treat with antibiotics as per trust protocol				Y N	NA	
	ii)	IV albumin (20% Human Albumin solution) 1.5g/kg (20g of albumin in 100ml of 20% Human Albumin Solution)				Y N	NA	
4. Acute kidney injury and/or hyponatraemia (Na <125 mmol/L)								Initials:
								Time:
								Initials:
								Time:
AKI defined by modified RIFLE criteria		1: Increase in serum creatinine ≥ 26µmol/L within 48hrs or						
		2: ≥50% rise in serum creatinine over the last 7 days or						
		3: Urine output (UO) <0.5mls/kg/hr for more than 6 hrs based on dry weight or						
		4: Clinically dehydrated						
a)	Suspend all diuretics and nephrotoxic drugs						Y N NA	
b)	Fluid resuscitate with 5% Human Albumin Solution or 0.9% Sodium Chloride (250ml boluses with regular reassessment: 1-2L will correct most losses)						Y N	
c)	Initiate fluid balance chart/daily weights						Y N	
d)	Aim UO>0.5ml/kg/hr based on dry weight						Y N	
e)	At 6 hrs, if target not achieved or EWS worsening then consider escalation to higher level of care						Y N NA	

5. GI bleeding – if the patient has evidence of GI bleeding and varices are suspected N/A <input type="checkbox"/>			Initials: Time:
a)	Fluid resuscitate according to BP, pulse and venous pressure	Y N	
b)	Prescribe IV terlipressin 2mg four times daily (caution if known ischaemic heart disease or peripheral vascular disease; perform ECG in >65yrs)	Y N NA	
c)	Prescribe prophylactic antibiotics as per Trust protocol	Y N	
d)	If prothrombin time (PT) prolonged give IV vitamin K 10mg stat	Y N NA	
e)	If PT> 20 seconds (or INR >2.0) – give FFP (2-4 units)	Y N NA	
f)	If platelets <50 – give IV platelets	Y N NA	
g)	Transfuse blood if Hb <7.0g/L or massive bleeding (aim for Hb >8g/L)	Y N NA	
h)	Early endoscopy after resuscitation (ideally within 12 hours)	Y N	
6. Encephalopathy N/A <input type="checkbox"/>			Initials: Time:
a)	Look for precipitant (GI bleed, constipation, dehydration, sepsis etc.)	Y N	
b)	Encephalopathy – lactulose 10-20ml QDS or phosphate enema (aiming for 2 soft stools/day)	Y N	
c)	If in clinical doubt in a confused patient request CT head to exclude subdural haematoma	Y N NA	Initials: Time:
4. Other			
a)	Venous thromboembolism prophylaxis – prescribe prophylactic LMWH and/or mechanical prophylaxis (patients with liver disease are at a high risk of thromboembolism even with a prolonged prothrombin time; withhold if patient is actively bleeding or platelets <75)	Y N NA	
	GI/Liver review at earliest opportunity (ideally within 24 hrs)	<input type="checkbox"/>	

Name

Grade

Date

Time

Appendix 1: Alcohol Use Disorders Identification Test (AUDIT)

AUDIT	Scoring System					Your Score
	0	1	2	3	4	
How often do you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times per month	2 - 3 times per week	4+ times per week	
How many units/drinks of alcohol do you drink on a typical day when you are drinking?	1 -2	3 - 4	5 - 6	7 - 9	10+	
How often have you had 6 or more units/drinks 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	
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	

Scoring: 0 – 7 Lower risk, 8 – 15 Increasing risk, 16 – 19 Higher risk, 20+ Possible dependence

Appendix 2: Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar)

Nausea/Vomiting - Rate on scale 0 – 7

- 0 - None
- 1 - Mild nausea with no vomiting
- 2
- 3
- 4 - Intermittent nausea
- 5
- 6
- 7 - Constant nausea and frequent dry heaves and vomiting

Tremors - have patient extend arms & spread fingers.

- Rate on scale 0 - 7
- 0 - No tremor
 - 1 - Not visible, but can be felt fingertip to fingertip
 - 2
 - 3
 - 4 - Moderate, with patient's arms extended
 - 5
 - 6
 - 7 - severe, even w/ arms not extended

Anxiety - Rate on scale 0 – 7

- 0 - no anxiety, patient at ease
- 1 - mildly anxious
- 2
- 3
- 4 - moderately anxious or guarded, so anxiety is inferred
- 5
- 6
- 7 - equivalent to acute panic states seen in severe delirium or acute schizophrenic reactions.

Agitation - Rate on scale 0 - 7

- 0 - normal activity
- 1 - somewhat normal activity
- 2
- 3
- 4 - moderately fidgety and restless
- 5
- 6
- 7 - paces back and forth, or constantly thrashes about

Paroxysmal Sweats - Rate on Scale 0 - 7

- 0 - no sweats
- 1 - barely perceptible sweating, palms moist
- 2
- 3
- 4 - beads of sweat obvious on forehead
- 5
- 6
- 7 - drenching sweats

Orientation and clouding of sensorium - Ask, "What day is this? Where are you? Who am I?" Rate scale 0 - 4

- 0 - oriented
- 1 - cannot do serial additions or is uncertain about date
- 2 - disoriented to date by no more than 2 calendar days
- 3 - disoriented to date by more than 2 calendar days
- 4 - disoriented to place and / or person

Tactile disturbances - Ask, "Have you experienced any itching, pins & needles sensation, burning or numbness, or a feeling of bugs crawling on or under your skin?"

- 0 - none
- 1 - very mild itching, pins & needles, burning, or numbness
- 2 - mild itching, pins & needles, burning, or numbness
- 3 - moderate itching, pins & needles, burning, or numbness
- 4 - moderate hallucinations
- 5 - severe hallucinations
- 6 - extremely severe hallucinations
- 7 - continuous hallucinations

Auditory Disturbances - Ask, "Are you more aware of sounds around you? Are they harsh? Do they startle you? Do you hear anything that disturbs you or that you know isn't there?"

- 0 - not present
- 1 - Very mild harshness or ability to startle
- 2 - mild harshness or ability to startle
- 3 - moderate harshness or ability to startle
- 4 - moderate hallucinations
- 5 - severe hallucinations
- 6 - extremely severe hallucinations
- 7 - continuous hallucinations

Visual disturbances - Ask, "Does the light appear to be too bright? Is its color different than normal? Does it hurt your eyes? Are you seeing anything that disturbs you or that you know isn't there?"

- 0 - not present
- 1 - very mild sensitivity
- 2 - mild sensitivity
- 3 - moderate sensitivity
- 4 - moderate hallucinations
- 5 - severe hallucinations
- 6 - extremely severe hallucinations
- 7 - continuous hallucinations

Headache - Ask, "Does your head feel different than usual? Does it feel like there is a band around your head?" Do not rate dizziness or lightheadedness.

- 0 - not present
- 1 - very mild
- 2 - mild
- 3 - moderate
- 4 - moderately severe
- 5 - severe
- 6 - very severe
- 7 - extremely severe

Procedure:

1. Assess and rate each of the 10 criteria of the CIWA scale. Each criterion is rated on a scale from 0 to 7, except for "Orientation and clouding of sensorium" which is rated on scale 0 to 4. Add up the scores for all ten criteria. This is the total CIWA-Ar score for the patient at that time. Prophylactic medication should be started for any patient with a total CIWA-Ar score of 8 or greater (i.e. start on withdrawal medication). If started on scheduled medication, additional PRN medication should be given for a total CIWA-Ar score of 15 or greater.
2. Document vitals and CIWA-Ar assessment on the Withdrawal Assessment Sheet. Document administration of PRN medications on the assessment sheet as well.
3. The CIWA-Ar scale is the most sensitive tool for assessment of the patient experiencing alcohol withdrawal. Nursing assessment is vitally important. Early intervention for CIWA-Ar score of 8 or greater provides the best means to prevent the progression of withdrawal.

Appendix 2: Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar)

Assessment Protocol a. Vitals, Assessment Now. b. If initial score ≥ 8 repeat q1h x 8 hrs, then if stable q2h x 8 hrs, then if stable q4h. c. If initial score < 8 , assess q4h x 72 hrs. If score < 8 for 72 hrs, d/c assessment. If score ≥ 8 at any time, go to (b) above. d. If indicated, (see indications below) administer prn medications as ordered and record on MAR and below.	Date																			
	Time																			
	Pulse																			
	RR																			
	O2 sat																			
	BP																			
Assess and rate each of the following (CIWA-Ar Scale): Refer to reverse for detailed instructions in use of the CIWA-Ar scale.																				
Nausea/vomiting (0 - 7) 0 - none; 1 - mild nausea ,no vomiting; 4 - intermittent nausea; 7 - constant nausea , frequent dry heaves & vomiting.																				
Tremors (0 - 7) 0 - no tremor; 1 - not visible but can be felt; 4 - moderate w/ arms extended; 7 - severe, even w/ arms not extended.																				
Anxiety (0 - 7) 0 - none, at ease; 1 - mildly anxious; 4 - moderately anxious or guarded; 7 - equivalent to acute panic state																				
Agitation (0 - 7) 0 - normal activity; 1 - somewhat normal activity; 4 - moderately fidgety/restless; 7 - paces or constantly thrashes about																				
Paroxysmal Sweats (0 - 7) 0 - no sweats; 1 - barely perceptible sweating, palms moist; 4 - beads of sweat obvious on forehead; 7 - drenching sweat																				
Orientation (0 - 4) 0 - oriented; 1 - uncertain about date; 2 - disoriented to date by no more than 2 days; 3 - disoriented to date by > 2 days; 4 - disoriented to place and / or person																				
Tactile Disturbances (0 - 7) 0 - none; 1 - very mild itch, P&N, numbness; 2-mild itch, P&N, burning, numbness; 3 - moderate itch, P&N, burning, numbness; 4 - moderate hallucinations; 5 - severe hallucinations; 6 - extremely severe hallucinations; 7 - continuous hallucinations																				
Auditory Disturbances (0 - 7) 0 - not present; 1 - very mild harshness/ ability to startle; 2 - mild harshness, ability to startle; 3 - moderate harshness, ability to startle; 4 - moderate hallucinations; 5 severe hallucinations; 6 - extremely severe hallucinations; 7 - continuous. hallucinations																				
Visual Disturbances (0 - 7) 0 - not present; 1 - very mild sensitivity; 2 - mild sensitivity; 3 - moderate sensitivity; 4 - moderate hallucinations; 5 - severe hallucinations; 6 - extremely severe hallucinations; 7 - continuous hallucinations																				
Headache (0 - 7) 0 - not present; 1 - very mild; 2 - mild; 3 - moderate; 4 - moderately severe; 5 - severe; 6 - very severe; 7 - extremely severe																				
Total CIWA-Ar score:																				
PRN Med: (circle one)	Dose given (mg):																			
Chlordiazepoxide Lorazepam		Route:																		
Time of PRN medication administration:																				
Assessment of response (CIWA-Ar score 30-60 minutes after medication administered)																				
RN Initials																				
Scale for Scoring: Total Score = 0 – 9: absent or minimal withdrawal 10 – 19: mild to moderate withdrawal more than 20: severe withdrawal										Indications for PRN medication: a. Total CIWA-AR score 8 or higher if ordered PRN only (Symptom-triggered method). b. Total CIWA-AR score 15 or higher if on Scheduled medication. (Scheduled + prn method) Consider transfer to ICU for any of the following: Total score above 35 or resp. distress.										

Patient Identification (Addressograph)

Signature/Title	Initials	Signature /Title	Initials

Appendix 4: Prescription sheet for Management of Alcohol Withdrawal Syndrome (GMAWS)



Prescription sheet for Management of Alcohol Withdrawal Syndrome

Drug: _____	Write in CAPITAL LETTERS or use addressograph
Consultant: _____	
Ward: _____	
Hospital: _____	

_____	Surname: _____
_____	First names: _____
_____	_____
_____	_____

SAMPLE

Check for all drug sensitivities on main Kardex

Date	0800	Prescriber 8am dose only	Administered by	1200	Administered by	1800	Administered by	2200	Administered by	Prescribers signature for 1200, 1800 and 2200 doses
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		
Dose	mg			mg		mg		mg		

FOR OFFICIAL USE ONLY

Notes

1. Please complete GMAWS assessment on reverse
2. The drug prescribed should be entered to on the main Kardex as 'reducing regime'
3. Please prescribe on 24 hour or at any given time and titrate against withdrawal symptoms
4. Please file this sheet in main Kardex sheet
5. Please ensure 8am dose prescribed for following day
6. Ensure patient is referred to Substance Misuse Liaison Nurses and has no break in regime,
7. Please ensure prn dosing is prescribed on main Kardex sheet
8. Please file this sheet in patient's notes at end of treatment cycle
9. In patients with co-existing benzodiazepine dependence please refer to Northern Ireland Alcohol Use Disorders Care Pathway

Appendix 4: Prescription sheet for Management of Alcohol Withdrawal Syndrome (GMAWS)

Glasgow Modified Alcohol Withdrawal Scale (GMAWS)											
Date											
Time											
Tremor											
0 - No tremor											
1 - On movement											
2 - At rest											
Sweating											
0 - No sweat visible											
1 - Moist											
2 - Drenching sweat											
Hallucinations											
0 - Not present											
1 - Dissuadable											
2 - Not dissuadable											
Orientation											
0 - Orientation											
1 - Vague, detached											
2 - Disorientated, no contact											
Agitation											
0 - Calm											
1 - Anxious											
2 - Panicky											
Score											
Treatment											
Staff Signature											

GMAWS: If remains unchanged or decreases continue with the chosen daily prescription for 4 hours	
4-6	measured score every 4 hours
>6	Hourly measures
0	for 3 consecutive readings nursing can stop

Mild symptoms (GMAWS 1-3):	
Day 1	Chlordiazepoxide: 20mg 4 times daily for 24hrs with 20mg stat on a prn basis
Day 2	20mg 4 times daily for 24hrs
Day 3	10mg 4 times daily for 24hrs then stop
PRN doses	2 hourly prescribed at the equivalent of regular dose

Moderate symptoms (GMAWS 4-6):	
Day 1	Chlordiazepoxide: 30mg stat then 30mg four times daily for 24hrs with 30mg stat on a prn basis
Day 2	20mg four times daily for 24hrs
Day 3	20mg three times daily for 24hrs
Day 4	10mg four times daily for 24hrs then stop
PRN doses	2 hourly prescribed at the equivalent of regular dose

Severe symptoms (GMAWS 7-10):	
Day 1	Chlordiazepoxide: 40mg 4 times daily for 24hrs with 40mg stat on a prn basis
Day 2	20mg 4 times daily for 24hrs
Day 3	20mg four times daily for 24hrs
Day 4	20mg three times daily for 24hrs
Day 5	10mg 4 times daily for 24hrs then stop
PRN doses	2 hourly prescribed at the equivalent of regular dose

Benzodiazepine detoxification (GMAWS 1-10):	
Day 1	1-2 mg (three times daily)
Day 2	1-2 mg (three times daily)
Day 3	Reduce by 1 mg per day
Day 4	Reduce by 1 mg per day
Day 5	Reduce by 1 mg per day
Day 6	Reduce by 1mg for 1 day, then stop

Appendix 5: Prescription sheet for Management of Alcohol Withdrawal Syndrome (CIWA-Ar)



Prescription sheet for Management of Alcohol Withdrawal Syndrome

Drug: _____	Write in CAPITAL LETTERS or use addressograph
Consultant: _____	
Ward: _____	
Hospital: _____	

_____	Surname: _____
_____	First names: _____
_____	_____
_____	_____

SAMPLE

Check for all drug sensitivities on Main Kardex

Date	0800	Prescriber 0800 dose only	Administered by	1200	Administered by	1800	Administered by	2200	Administered by	Prescribers signature for 1200, 1800 and 2200 doses
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		
	Dose	mg		mg		mg		mg		

FOR OFFICIAL USE ONLY

Notes

1. Please complete CIWA assessment on reverse
2. The drug prescribed should be referred to on the main Kardex as 'prn dosing regime'
3. Please prescribe for 24 hours or at any given time and titrate against withdrawal symptoms
4. Please file this sheet in main Kardex sheet
5. Please ensure 8am dose prescribed for following day
6. Ensure patient is referred to Substance Misuse Liaison Nurses and has no break in regime.
7. Please ensure prn dosing is prescribed on main Kardex sheet
8. Please file this sheet in patient's notes at end of treatment cycle
9. In patients with co-existing benzodiazepine dependence please refer to Northern Ireland Alcohol Use Disorders Care Pathway

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GLOSSARY

Abbreviations:

SMLN - Substance Misuse Liaison Nurse

A practitioner working within the acute hospital (ED and wards) expert in the management of patients with either alcohol or drug misuse. They provide screening, assessment, treatment advice, motivational interviewing, brief interventions and onward referral to statutory and non-statutory services. They also provide education and training to healthcare professionals on drugs/alcohol.

ARBD - Alcohol Related Brain Damage

An umbrella term that accommodates the various psychoneurological/ cognitive conditions that are associated with long-term alcohol misuse and related vitamin deficiencies.

AWS - Alcohol Withdrawal Syndrome

Screening/ Assessment Tools:

AUDIT - Alcohol Use Disorders Identification Test

An alcohol screening test designed to determine if people are drinking harmful or hazardous amounts of alcohol. It can also be used to identify people who warrant further diagnostic tests for alcohol dependence (NICE pathway, 2016).

AUDIT-C - Alcohol Use Disorders Identification Test Consumption

The first 3 questions of the AUDIT create AUDIT-C.

GMAWS - Glasgow Modified Alcohol Withdrawal Scale

Guide to measuring the severity of alcohol withdrawal symptoms.

CIWA-Ar - Clinical Institute Withdrawal Assessment of Alcohol Scale,

Revised Guide to measuring the severity of alcohol withdrawal symptoms.

6CIT - 6 Item Cognitive Impairment Test

Screening tool for ARBD

MoCA - Montreal Cognitive Assessment

Brief cognitive screening tool for mild cognitive impairment

CONTRIBUTORS

Public Health Agency - Stephen Bergin / Briege Quinn / Eithne Darragh (HSCB)

Belfast Trust - Roger McCorry / Helen Toal / Geraldine Wilson

Northern Trust - Billy Gregg / Kathy Goumas

Southeastern Trust - Joy Watson / Jennifer Addley / Noel Taggart / Marty Cardwell / Sarah McVeigh

Southern Trust - Ann O'Neill / Kevin Morton / Mary Burke

Western Trust - Yvonne McWhirter / Emir Teague / Claire Crossan