Using mMINDS to Evaluate Alcohol Withdrawal in the ICU

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BACKGROUND

Up to 60% of ICU patients have alcohol use disorder, putting them at risk for alcohol withdrawal syndrome (AWS). AWS can contribute to longer hospital stays, more complications, higher costs, and increased mortality (Cucci et al., 2022.) Currently, Clinical Institute Withdrawal Assessment for Alcohol (CIWA) is the standard tool used for AWS assessment across all levels of care at UMC. However, CIWA requires patient interaction to score the patient accurately, which is often not feasible in ICU patients due to their clinical condition.

The modified Minnesota detoxification scale (mMINDS) is a nine-item scale that relies on data such as heart rate, blood pressure, tremor presence, sweating, hallucinations, agitation, orientation, delusions, and seizures. Unlike CIWA, mMINDS can be scored using objective clinical observations, making it more applicable in the ICU. Use of mMINDS has been associated with reduced physical restraint use, shorter hospital length of stay, less endotracheal intubation, and fewer days on benzodiazepines compared to CIWA (Gottlieb et al., 2024).

PURPOSE

To determine whether mMINDs is a more effective scale than CIWA-Ar for evaluating AWS in intensive care units.

METHODS

We initially identified limitations to our current practice using the Clinical Institute Withdrawal Assessment (CIWA-Ar) to identify AWS in the critical care setting. We conducted a literature review to explore alternative assessment tools. Current research supports the use of mMINDS for AWS screening in ICU settings. Guided by this evidence, we selected mMINDS for implementation and comparison with CIWA-Ar in our ICU population.

Modified Minnesota Detoxification Scale (mMINDS)

Assessment	(+0)	(+1)	(+2)	(+3)	(+4)	(+6)	(+9)
PULSE (BPM)	<90	90-110	>110				
DBP	<90	90-110	>110				
TREMOR	Absent		Slightly visible		Moderate	Severe	
SWEAT	Absent		Barely, moist palms		Beads visible	Drenched	
HALLUCINATIONS	Absent	Mild	Moderate	Severe			
AGITATION, RASS	Normal activity, RASS 0 or less			Somewhat normal, RASS +1		Moderately fidgety, RASS +2	Pacing, thrashing, RASS > +2
ORIENTATION	Oriented x3, or at baseline, or too sedated to access		Oriented x2		Oriented x1	Disoriented	
DELUSIONS	Absent or unable to access					Present	
SEIZURES	Not actively seizing					Actively seizing	

RESULTS

According to Trojand et al. (2025), "mMINDS is an effective tool and should be used in critical care areas." Their review of nine articles found three important outcomes. First, nurses preferred the mMINDS over CIWA-Ar. Second, the assessments were more accurate for patients with a CIWA-Ar score greater than 10. Third, patient outcomes improved: using mMINDS was associated with shorter hospital stays, reduced benzodiazepine use, and decreased the risk of delirium tremens.

CONCLUSIONS

- Studies have shown less usage of benzodiazepines and related complications when utilizing mMINDS.
- Unlike CIWA-Ar, the mMINDS does not require patient verbal responses, which in turn, lessens the potential for scoring errors in patients who are intubated, sedated, delirious, and critically ill.
- With ongoing research and planning, TICU UBC intends to present mMINDS to hospital leadership as a replacement to the CIWA-Ar scale for intensive care patients.

REFERENCES

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