


DRUG & ALCOHOL FINDINGS *Research analysis*

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Hover over for notes. [Click to](#) highlight passage referred to. [Unfold extra text](#)  The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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▶ **A 'symptom-triggered' approach to alcohol withdrawal management.**

Murdoch J., Marsden J.

British Journal of Nursing: 2014, 23(4), p. 198–202.

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Providing medication in response to symptoms of alcohol withdrawal instead of routinely improved the outcomes of patients in acute hospital settings – reducing the duration of treatment and the amount of medication used.

SUMMARY Alcohol-related hospital admissions have been steadily rising, and although it is now common to see “alcohol misuse” among those admitted to hospital, many patients are inadequately assessed and treated for alcohol withdrawal. A nurse working for the specialist alcohol team in the Pennine Acute Hospital Trust in England observed that the team tended only to be consulted on alcohol detoxification when things went ‘wrong’, for example when a patient’s symptoms were exacerbated, or when they became difficult/time-consuming to manage. The team was worried about their colleagues’ lack of education about detoxification, and the lack of evidence-based protocols to assist in patient care. A significant number of critical incidents involving patients who were undergoing detoxification added to the need for an evidence-based approach to the management of alcohol detoxification.

The featured study evaluated a locally-implemented, ‘symptom-triggered’ approach to alcohol withdrawal management, which, it was hypothesised, would improve care by providing an individualised treatment plan for patients. The study involved:

- A pre-intervention audit of case notes: method of detoxification, drugs used, and time taken to complete detoxification.
- The development and implementation of an evidence-based, symptom-triggered protocol, along with education for all staff groups.
- A post-intervention audit of case notes, as well as a questionnaire to gauge staff satisfaction with the change.

The symptom-triggered protocol is [recommended by](#) the UK’s health advisory body, [NICE](#), and consists of monitoring patients and providing medication only when symptoms of alcohol withdrawal develop. Symptoms can be identified with a [validated assessment tool](#), the revised Clinical Institute of Withdrawal Assessment Scale [see [NICE guideline](#)]. This scores the severity of nausea, sweating, agitation, headache, anxiety, tremor, sensory disturbances, and disorientation. Repeated scoring at suitable intervals monitors the response to treatment and helps determine if further medication is needed.

The alcohol withdrawal syndrome can include a cluster of symptoms that emerge after the cessation of, or reduction in, heavy and prolonged alcohol use. This can happen on admission to hospital, either as part of planned detoxification or admission for another reason.



Key points

From summary and commentary

Alcohol-related hospital admissions are steadily rising, and although “alcohol misuse” is now common among inpatients, many are inadequately assessed and treated for alcohol withdrawal.

Alcohol withdrawal syndrome (ranging from mild to severe) can happen on admission to hospital, either as part of planned detoxification or admission for another reason.

This study set in a UK hospital trust found that providing medication in response to symptoms of alcohol withdrawal instead of routinely is achievable and can improve outcomes for patients – reducing treatment duration and the amount of medication used.

Alcohol withdrawal syndrome can vary from mild to serious. Its onset typically occurs within 48 hours of a person's last drink, and according to the Diagnostic and Statistical Manual of Mental Disorders (4th edition), a diagnosis can be made by the presence of two or more of the following symptoms: tremor; insomnia; nausea or vomiting; temporary visual, tactile or auditory hallucinations; psychomotor agitation; anxiety; and seizures. In about 5% of cases patients develop 'delirium tremens' within 72 hours, which is a medical emergency with a high mortality rate (5–20% in inappropriately managed patients).

Benzodiazepines relieve the symptoms of alcohol withdrawal and reduce the frequency of seizures and delirium tremens. Chlordiazepoxide **tends to be used** in practice, and was the drug of choice for the intervention used in this study.

Main findings

Pre-implementation

It took an average of six days for patients to undergo detoxification, and cost an average of £1908. The average dose of chlordiazepoxide to complete an inpatient detoxification was 563 mg.

A number of prescribing errors were noted, including:

- maximum safe dose not being entered in records;
- doses fixed for a number of days or increased, rather than decreased;
- medication given 'as needed' was written down, but with no guidance on administration.

Chlordiazepoxide was administered in various ways, and the number of days to complete detoxification ranged from four to ten.

A total of 11 patients developed signs of severe alcohol withdrawal syndrome – five developed delirium tremens, and six had post-admission seizures.

Post-implementation

It took an average of two-and-a-half days to complete detoxification, and cost an average of £744. The average dose of chlordiazepoxide to complete an inpatient detoxification was 167 mg. Five patients required no chlordiazepoxide.

No patients developed signs of severe alcohol withdrawal.

All prescriptions were written correctly. The dose of administration was only wrong on three occasions, with patients not having the right amount in accordance with their withdrawal assessment score. This was attributed to nursing error, as the flow chart had not been followed correctly. This triggered refresher sessions for individual nurses.

A total of 212 questionnaires were returned by a full range of clinical staff, from consultants to staff nurses. The vast majority believed that the new approach was user-friendly (97%), that there had been improvements in care for this patient group, that it benefitted staff through reduced workload, benefitted the patients themselves, and that detox was achieved much quicker (98%). From the questionnaires, the project team concluded that clinicians were satisfied with the change, mostly because of the benefits for patients. The results identified that an increase in staff satisfaction correlated directly with the increase in their compliance with the protocol, indicated by more patients being assessed by an alcohol specialist, in-depth alcohol histories being taken, appropriate treatment options, prompt discharges and, when required, more successful detoxification attempts.

The authors' conclusions

The change in practice resulted in an average reduction of almost 60% in the length of hospital stay and a 66% reduction in the amount of chlordiazepoxide used in detoxification, as well as highlighting that 10% of the sample group did not display any signs of withdrawal and did not require any medication. Even with the reductions in medical treatment, no patient developed any severe signs of withdrawal post-intervention such as seizures or delirium tremens.

Initiatives such as the [Commissioning for Quality and Innovation \(CQUIN\)](#) payment framework enable commissioners to reward excellence by linking a proportion of healthcare income to the

BEFORE AND AFTER THE 'SYMPTOM-TRIGGERED' APPROACH

Time taken to complete detoxification: 6 days versus 2.5 days

Cost of patients undergoing detoxification: £1908 versus £744

Average dose of chlordiazepoxide: 563 mg versus 167 mg

No. patients with severe alcohol withdrawal: 11 versus 0

achievement of local quality improvement goals. The fact that alcohol is such a major problem for patients, but is now also linked to financial gain for trusts, makes it all the more important that treatment is timely and effective. The featured project contributes towards this – demonstrating an evidence-based integrated care pathway for a group of patients for whom care has been less than optimal.

FINDINGS COMMENTARY [NICE guidelines](#) from 2010 on the diagnosis and clinical management of alcohol use disorders described three ways of administering medication to assist with alcohol withdrawal (one of which was the symptom-triggered approach appraised in the featured study):

- *Fixed-dose* regimens start with a standard dose which is then reduced over several days.
- *Symptom-triggered* regimens tailor treatment to the severity of withdrawal signs and symptoms which are regularly assessed and monitored. Medication is provided if the patient needs it, and treatment is withheld if there are no symptoms of withdrawal.
- *Front-loaded* regimens provide a large dose of long-acting medication at the start and then 'as required'.

[NICE](#) found insufficient evidence on front-loading. Compared to fixed-dose regimens, symptom-triggered dosing reportedly involved significantly lower doses of benzodiazepines over a shorter period without an increase in the incidence of seizures or delirium tremens or in the severity of withdrawal symptoms. However, most of the studies were based on patient samples consisting mainly of men who had been admitted to specialist addiction services. Symptom-triggered dosing requires patients to be closely monitored and health care workers with the specialist clinical knowledge needed to identify signs and symptoms that imply a change in severity of withdrawal. In the experience of the expert group that informed the development of the [NICE](#) guidelines, acquiring the required skills was not a major task.

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