

**Comment(s)**

Dehydration is an important cause of childhood morbidity and mortality worldwide. Skin turgor is generally accepted as part of the clinical assessment of hydration status in children being a quick, non-invasive test that can be performed at the bedside. Unrecognised fluid deficit can lead to electrolyte and acid-base disturbances as well as end organ damage. Conversely over estimation of fluid deficit can result in inappropriate rehydration therapy. The value of any clinical test is a function of its ability to detect a particular condition and its reliability. The limited number of studies which have various sources of bias show only moderate agreement for inter-observer reproducibility when skin turgor is used to clinically assess hydration status in children.

**► CLINICAL BOTTOM LINE**

Skin turgor measurement, whilst part of the initial assessment of children with suspected dehydration, is only moderately reliable and other clinical signs should be sought to confirm this diagnosis.

**Steiner MJ**, De Walt DA, Byerley JS. Is this child dehydrated? *JAMA* 2004;**291**:2746–54.

**Gorelick M**, Shaw K, O'Murphy K. Validity and reliability of clinical signs in the diagnosis of dehydration in children. *Paediatrics* May 1997;**99**:1–6.

**Duggan C**, Refat M, Hashem M, et al. Interrater agreement in the assessment of dehydration in infants. *Journal of Tropical Paediatrics* 1997;**43**:119–21.

**Otieno H**, Were E, Ahmed I, et al. Are bedside features of shock reproducible between different observers. *Archives of Disease in Children* 2004;**89**:977–79.

## Is ED-based Brief Intervention worthwhile in children and adolescents presenting with alcohol-related events?

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A short cut review was carried out to establish whether brief psychotherapeutic intervention is worthwhile in children and adolescents presenting to emergency departments with alcohol-related events. 560 papers were found using the reported searches, of which 5 presented the best evidence to answer the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of these best papers are tabulated. It is concluded that brief psychotherapeutic interventions are indeed worthwhile in such patients.

**Clinical Scenario**

A 16-year-old male arrives at the emergency department having sustained a head injury after falling over whilst intoxicated. You have heard about the recent institution of an Alcohol Health Service in the department comprising two designated Alcohol Health Workers who administer brief psychotherapeutic interventions to children and adults presenting with alcohol-related events. Having assessed and treated the patient, you wonder whether it is worthwhile referring him on to them.

**Three-part question**

In [children and adolescents presenting to the emergency department with an alcohol-related event], is [Brief Intervention better than standard care] at [reducing subsequent alcohol consumption, reducing alcohol-related problems,

reducing emergency department re-attendance and improving psychosocial well-being?]

**Search strategy**

MEDLINE 1966 to November week 3 2006: {[alcohol\$.mp. OR ethanol.mp. OR exp Ethanol/OR booze\$.mp. OR exp Alcohol Drinking/) AND (addict\$.mp. OR hazard\$.mp. OR problem\$.mp. OR binge\$.mp. OR abuse\$.mp. OR misuse\$.mp OR dependence.mp.)] OR [alcoholism.mp. OR exp Alcoholism/OR exp Alcoholic Intoxication/]} AND [brief intervention\$.mp. OR (brief.mp. AND intervention\$.mp.) OR exp Psychotherapy, Brief/OR exp Counseling/OR counsel\$.mp. OR exp Health Personnel/OR health worker.mp.] AND [exp Emergency Service, Hospital/OR emergency department\$.mp. OR (accident and emergency).mp. OR exp Trauma Centers/] LIMIT to [humans AND English language]

EMBASE 1980 to 2006 week 49: {[alcohol\$.mp. OR exp ALCOHOL/OR ethanol.mp. OR booze\$.mp. OR exp Alcohol Consumption/) AND (addict\$.mp. OR hazard\$.mp. OR problem\$.mp. OR binge\$.mp. OR abuse\$.mp. OR misuse\$.mp OR dependence.mp.)] OR [alcoholism.mp. OR exp ALCOHOLISM/OR exp Drug Dependence/OR exp Drug Misuse/OR exp Alcohol Abuse/OR exp ALCOHOL INTOXICATION/]} AND [brief intervention\$.mp. OR (brief.mp. AND intervention\$.mp.) OR exp PSYCHOTHERAPY/OR exp COUNSELING/OR counsel\$.mp. OR exp Health Care Personnel/OR health worker.mp.] AND [exp Emergency Medicine/OR exp Emergency Health Service/OR emergency department\$.mp. OR exp emergency ward/OR (accident and emergency).mp. OR trauma center.mp.] LIMIT to [humans AND English language] PsycINFO 1967 to June week 4 2006: {[alcohol\$.mp. OR ethanol.mp. OR exp ETHANOL/OR booze\$.mp.) AND (addict\$.mp. OR hazard\$.mp. OR problem\$.mp. OR binge\$.mp. OR abuse\$.mp. OR misuse\$.mp)] OR [alcoholism.mp. OR exp ALCOHOLISM/OR exp Alcohol Drinking Patterns/OR exp Drug Dependency/OR exp ALCOHOL ABUSE/OR exp Alcohol intoxication/]} AND [brief intervention\$.mp. OR (brief.mp. AND (exp INTERVENTION/OR intervention\$.mp.)) OR exp Brief Psychotherapy/OR exp Counseling/OR counsel\$.mp. OR exp Health Personnel/OR health worker.mp.]

AND [exp Emergency Services/OR emergency department\$.mp. OR (accident and emergency).mp. OR trauma center\$] LIMIT to [humans AND English language]

CINAHL 1982 to December week 1 2006 {[alcohol\$.mp. OR ethanol.mp. OR exp Alcohol, Ethyl/OR booze\$.mp. OR exp Alcohol Drinking/) AND (addict\$.mp. OR hazard\$.mp. OR problem\$.mp. OR binge\$.mp. OR abuse\$.mp. OR misuse\$.mp OR dependence.mp.)] OR [alcoholism.mp. OR exp ALCOHOLISM/OR exp Alcohol abuse/OR exp Alcoholic Intoxication/]} AND [brief intervention\$.mp. OR (brief.mp. AND intervention\$.mp.) OR exp PSYCHOTHERAPY/OR exp COUNSELING/OR counsel\$.mp. OR exp Health Personnel/OR health worker.mp.] AND [exp Emergency Service/OR emergency department\$.mp. OR (accident and emergency).mp. OR exp Trauma Centers/]

LIMIT to [humans AND English language] The Cochrane Library Issue 4, 2006: alcohol AND brief intervention AND emergency department

**Outcome**

560 articles were found in all databases, of which 5 were relevant and of sufficient quality for inclusion.

**Comments**

Tait *et al* (2004) and the follow-up study (Tait *et al*, 2005) demonstrated that brief intervention significantly enhanced attendance at a treatment agency, significantly improved

Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Monti <i>et al</i> , 1999, USA	94 ED patients aged 18 to 19 years with positive BAC or self-report drinking prior to ED attendance; consent/assent; English-speaking; not suicidal, not in police custody; no serious injury requiring admission. 42 randomised to standard care (SC), 52 to brief motivational interview (MI) SC - 5 mins; handout on avoiding drinking and driving and list of local treatment agencies	RCT	Alcohol use in past 3 months using ADQ	Significant reductions in alcohol use with time in both groups ( $p < 0.001$ ); no inter-group difference	Questionable validity of adolescent self-report data; patients not blinded to treatment; high refusal rate (33%); unable to assure sufficiency of sample size; randomisation procedure not described
	MI - standard care plus motivational interviewing: 35-40 mins; introduction and review of circumstances of event; exploration of motivation (pros and cons); personalised and computerised assessment feedback; imagining the future and establishing goals. Also additional handout on effects of alcohol on driving and a personalised feedback sheet		Drinking and driving using YADDQ	MI group significantly less likely to report drinking and driving versus SC group (62% vs. 85%, $p < 0.05$ )	
			Traffic violations via DMV (Department of Motor Vehicle) records	MI group significantly less likely to have had traffic violation versus SC group (3% v 23%, $p < 0.05$ ) at 6 months	
			Alcohol-related injuries using AIC	MI group significantly less likely to report alcohol-related injury versus SC group (21% v 50%, $p < 0.01$ ) at 6 months	Lack of definitive diagnosis of substance dependence; questionable validity of adolescent self-reported data; patients and interviewer not blinded to treatment allocation; only 25% of intervention group attended agency; AOD consumption analyses not performed by intention-to-treat; higher loss to follow-up in intervention group (47% v 24% in control); unable to assure sufficiency of sample size
Tait <i>et al</i> , 2004, Australia	127 ED patients aged 12 to 19 years with presentation involving alcohol or other drug (AOD) and consenting. 60 randomised to intervention, 67 to control	RCT	Attendance at treatment agency by 4 months	Significantly more of intervention group than usual care group attended a community treatment agency (47% v 4%, $p < 0.001$ )	
	Control - usual care		Psychosocial indicators using GHQ (General Health Questionnaire) and FAD (Family Assessment Device) at 4 months	Greater improvement in GHQ in intervention vs. usual care group at 4 months (mean 7.1 v 3, $p < 0.05$ ). No corresponding change in FAD	
	Intervention - referral to external treatment agency facilitated via consistent support person (social/health worker) by identifying and discussing specific negative consequences associated with their personal drug use, identifying impediments to reducing negative consequences and trigger situations; advice regarding appropriate services available in local area and type of intervention offered by agency		AOD consumption using DDUT (The Demographics and Drug use of Teenagers Questionnaire) and AUDIT-3 (first 3 questions of Alcohol Use Disorders Identification Test) at 4 months	40% of those attending agency moved to 'safer' alcohol use versus 20% of those not attending (not significant). 50% of those attending agency reported no intravenous drug use in previous 4 months versus 20% of those not attending (not significant)	

**Table 3** Continued

Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Spirito <i>et al</i> , 2004, USA	152 ED patients aged 13 to 17 years with evidence of alcohol in blood/breath/saliva or self-report drinking 6 hours prior to ED attendance; consent/assent; English-speaking; not suicidal, not in police custody; no serious injury requiring admission; 74 randomised to standard care (SC), 78 to brief MI	RCT	Alcohol use in past 3 months (frequency, quantity, high-volume drinking frequency) using ADQ	Both groups had reduced drinking quantity at 12 months. Intervention group had significant decrease over time in quantity consumed ( $p < 0.001$ ) but not for frequency or high-volume drinking frequency. Among those with high ADI score (positive for alcohol problems) those in intervention group had lower frequency of drinking ( $p < 0.01$ ) and lower frequency of high-volume drinking ( $p < 0.01$ ) at follow-up versus those in control group. No significant difference in quantity consumed	Questionable validity of adolescent self-report data; patients not blinded to treatment; high refusal rate (47%); only 31% of MI group and 21% of SC group attended for intervention; unable to assure sufficiency of sample size
	SC – 5 min brief advice to stop drinking, handout on avoiding drinking and driving, list of substance abuse treatment agencies, recommendation to arrange follow-up with primary healthcare provider		Drinking and driving in past 12 months using Young Adult Drinking and Driving Questionnaire	Initial reduction in proportion drinking and driving in both groups at 3 months (SC vs. MI 4% v 10%), returning to previous levels/higher at 6 and 12 months. Rates not significantly different between groups at any time	
	MI – standard care plus motivational interviewing: 35–45 mins; emphasis on personal responsibility for change; exploration of motivation for drinking and review of potential negative consequences; personalised normative assessment feedback about pattern of alcohol use and risks; imagining their future if they continued to drink in same way versus if they change; establishing goals with regard to drinking and anticipating barriers to accomplishing the goals. Also additional handouts about negative effects of alcohol, effects of alcohol on driving abilities and a personalised feedback sheet		Alcohol-related injury in past 12 months using AIC	Initial reduction in proportion with alcohol-related injury in both groups at 3 months (SC vs. MI 1% v 12%), returning to previous levels/higher at 6 and 12 months. Rates not significantly different between groups at any time	
Tait RJ <i>et al</i> , 2005 Australia	As in Tait <i>et al</i> , 2004: 87 (69%) followed-up at 12 months; 38 intervention group, 49 usual care group	RCT 12-month follow-up	Alcohol-related problems in past 12 months using AHBQ  Attendance at treatment agency	No time effects or differences between groups at any time. No differences when categorised by ADI scores  Significantly more of intervention group than usual group attended agency (25% v 6%, $p < 0.005$ )	Questionable validity of adolescent self-reported data; questionable validity and completeness of record database; patients and interviewer not blinded to treatment allocation; higher loss to follow-up in intervention group (37% versus 27% in control); small sample size; AOD consumption analyses not performed by intention-to-treat
			Psychosocial indicators using GHQ and FAD  AOD consumption using DDUT and AUDIT-3	Both groups showed significant improvement in GHQ and FAD scores  25% of those attending agency moved to 'safer' alcohol use versus 17% of those not attending (not significant). 25% of those attending agency reported no intravenous drug use in previous 4 months versus 16% of those not attending (not significant)	

Table 3 Continued					
Author, country, date	Patient group	Study type	Outcomes	Key results	Study weaknesses
Tait <i>et al.</i> , 2005, Australia	As in Tait <i>et al.</i> 2004	RCT 12-month follow-up	Number of hospital AOD ED presentations using ED Information System or manual inspection of records Hospital events 12 months post-recruitment AOD hospital events (as above) Survival to first AOD event Above re-assessed after categorising for type of drug 'alcohol alone' versus 'all other drugs'	Fewer AOD ED events in intervention group versus usual group (not significant). Significant reduction in AOD ED events from pre to post-enrolment in intervention group ( $p=0.007$ ) vs. no change in usual care group Those receiving intervention had significantly more hospital events than usual care group (median 1 v 0, $p=0.017$ ) Both groups had similar numbers of AOD-related events ( $p=0.161$ ) Both groups had similar survival times (intervention vs. control 1027 v 1141 days, $p=0.441$ ) Survival times similar for both categories of users in intervention group ( $p=0.97$ ). In usual care group, those using 'all other drugs' had significantly shorter survival times than 'alcohol alone' group ( $p=0.0003$ )	Questionable validity and completeness of ED record database; relative severities of AOD repeat events unknown; small sample size

ED, emergency department; BAC, blood alcohol concentration; ADQ, adolescent questionnaire; ADI, adolescent drinking inventory; MI, motivational interview; AIC, adolescent injury checklist; AHBQ, adolescent health behaviour questionnaire

psychosocial well-being and resulted in non-significant reductions in alcohol consumption in those attending a treatment agency. Although follow-up at 12 months (Tait and Hulse, 2005) demonstrated significantly more hospital events in patients receiving the intervention, the number of AOD hospital events was similar in both groups and there was a significant reduction in AOD ED attendances pre- to post-enrolment in the intervention group (Tait *et al.*, 2005).

The US-based trial in attendees aged 13–17 years (Spirito *et al.*) demonstrated a significant reduction in alcohol consumption in the intervention group over time, but no significant inter-group differences in consumption, drinking or driving, alcohol-related injury or problems. Conversely, an earlier trial in 18–19 year olds (Monti *et al.*) showed that at 6 months, those in the intervention group were significantly less likely to commit traffic violations, to drink and drive, and to experience alcohol-related injuries or problems.

#### ► CLINICAL BOTTOM LINE

Brief psychotherapeutic intervention is worthwhile in adolescents and children who attend emergency departments after an alcohol related episode.

**Monti PM, Spirito A, Myers M, et al.** Brief intervention for harm reduction with alcohol-positive older adolescents in a hospital emergency department. *J Consult Clin Psychol* 1999;**67**(6):989–94.

**Tait RJ, Hulse GK, Robertson SI.** Effectiveness of a brief intervention and continuity of care in enhancing attendance for treatment by adolescent substance users. *Drug Alcohol Depend* 2004;**74**(3):289–96.

**Spirito A, Monti PM, Barnett NP, et al.** A randomized clinical trial of a brief motivational intervention for alcohol-positive adolescents treated in an emergency department. *J Pediatr* 2004;**145**(3):396–402.

**Tait RJ, Hulse GK, Robertson SI, et al.** Emergency department-based intervention with adolescent substance users: 12-month outcomes. *Drug Alcohol Depend* 2005;**79**(3):359–63.

**Tait RJ, Hulse GK.** Adolescent substance use and hospital presentations: A record linkage assessment of 12-month outcomes. *Drug Alcohol Depend* 2005;**79**(3):365–71.

## Should a child with preseptal periorbital cellulitis be treated with intravenous or oral antibiotics?

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A short cut review was carried out to establish whether there was any evidence to show whether children with preseptal periorbital cellulitis should be treated with intravenous or oral antibiotics. 395 papers were found using the reported searches of which none presented any evidence to answer the clinical question. It is concluded that there is no evidence to determine whether intravenous antibiotics are better than oral antibiotics in the management of simple preseptal periorbital cellulitis in the paediatric population. Given this, and that preseptal periorbital cellulitis can be difficult to distinguish from the more serious postseptal variety, local advice should be sought and followed.

#### Clinical scenario

A 5-year-old boy presents to the emergency department with the signs and symptoms of uncomplicated preseptal periorbital cellulitis. There is no obvious precipitant and the child is otherwise well. You wonder whether it is appropriate to