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Unintentional ingestion of toxic alcohols: Think before you drink!

By Michael Cull, Colleen Noble & Mark Yarema, Poison and Drug Information Service

Unintentional ingestions of toxic alcohols (e.g. methanol and ethylene glycol) are a common occurrence in Alberta. The Alberta Poison Centre recorded 188 cases of accidental toxic alcohol exposures between April 1, 2008 and March 31, 2009. Products containing toxic alcohols are commonly found at home and in the workplace. These include: windshield washer fluid, gas line antifreeze, paint thinners, radiator fluid, fondue fluid, de-icing solutions, and model car and plane fuels. All of the above products contain methanol with the exception of radiator fluid which contains ethylene glycol. While exposure to ethanol can result in toxicity, ethanol is not categorized as a toxic alcohol.

When these products are ingested (or inhaled), they are broken down by the body into toxic byproducts. Effects include nausea and vomiting, intoxication (like ethanol), acidosis, seizures, blindness, kidney failure, coma and death. As little as a mouthful is enough to cause serious consequences.

As an example of an accidental exposure, we present a recent case called into the Alberta Poison Centre. This ingestion was unintentional and preventable.

A 34 year old healthy male was working at an oil and gas site. He was thirsty so took a drink from a sport drink bottle containing a blue liquid. After the second mouthful he realized the contents were not what he thought and shortly thereafter started to experience nausea. He learned from a co-worker that the bottle was filled with windshield washer fluid containing methanol, which is often used for flushing out lines or preventing machine parts from freezing. He called the Poison Centre for advice and was directed to the local hospital for evaluation.

Upon arrival at hospital the patient complained of a mild feeling of intoxication. Blood work was ordered and

he was started on intravenous medication to prevent the conversion of methanol to its toxic byproduct (formic acid). His peak serum methanol level was 6 mmol / L. Concentrations at or below this level are not typically treated unless there is evidence of organ damage (e.g. blindness). The patient was therefore discharged from hospital in stable condition.

In the case presented the outcome was favorable. However, in some instances, patients must be treated with dialysis to remove the toxic alcohol and its byproducts from the blood.

How can this type of situation be prevented?

- Products should always be stored in original containers with labels intact.
- If products must be decanted for practical reasons, ensure the new container does not resemble a beverage container or water bottle and is properly labeled with standard warning labels that clearly and prominently indicate the ingredient.
- Material safety data sheets should be available in the workplace for all products.
- Be aware of which products in your home or at work contain methanol and ethylene glycol.
- Read the labels on containers and always use as directed.
- Do not leave products in use unattended, and store unused products in locked cabinets.

Poison and Drug Information Service (PADIS) staff are available 24 hours a day, 365 days of the year to offer advice on poison management and prevention. For assistance, contact PADIS toll free throughout Alberta at 1-800-332-1414 or in Calgary at 403-944-1414. You can also visit us online at www.padis.ca.

Updates, news and resources

Consultation on legislation for children's toys

Health Canada plans to modernize the safety legislation for children's toys and is soliciting input from Canadians and stakeholders. They will be doing this in several stages with Part I relating to Mechanical and Electrical Hazards underway now. Input is being sought on issues such as toys with magnets, sound-emitting toys, size and shape of toys, and labeling. Feedback is due January 12, 2010. Complete information on the consultation is available at www.hc-sc.gc.ca/cps-spc/legislation/consultation/2009toy-jouet/index-eng.php.

Study to help injury groups collaborate

Funded by the Ontario Trillium Foundation, a new study is being launched to find ways and means for collaborating among Canada's four national injury prevention organizations: Safe Communities Canada, Safe Kids Canada, SMARTRISK and ThinkFirst Canada. For more information, visit www.smartrisk.ca/TSSA%20OTF%20Funding%20Announce%20ENGL.pdf.

Follow *Finding Balance* on Twitter

You can now follow the *Finding Balance* seniors' falls prevention project on Twitter to stay up-to-date on the happenings of the campaign, for events taking place, or to let the campaign know how you're helping to prevent seniors' falls in your community. You can find *Finding Balance* at www.twitter.com/BalancedAlberta.

MADD report suggests that Alberta's traffic safety laws need improvement

By Professors Robert Solomon and Erika Chamberlain, Faculty of Law, University of Western Ontario

According to a recent report by MADD Canada, Alberta has plenty of room to improve its driver and vehicle licensing laws.

Alberta received a grade of B- and ranked 6th overall in *Rating the Provinces and Territories: The 2009 Report*. This was a drop of two places from Alberta's 4th place ranking in 2006. Alberta's highway traffic legislation has remained relatively unchanged since 2006, while other provinces have taken bolder steps to improve traffic safety.

MADD Canada has been rating the provinces and territories since 2000. The goal of the project is to provide provincial governments with information on realistic and effective measures that will reduce impaired driving in their jurisdictions. It provides the basis of ongoing discussion on the critical role the provinces can play in reducing impaired driving. While the federal government has made some progress through recent amendments to the Criminal Code, the provinces have the opportunity to enact innovative measures through their authority over driver and vehicle licensing.

Indeed, some of the most promising initiatives of recent years have been introduced by the provinces. Every jurisdiction except Nunavut now has some form of graduated licensing program (GLP), a measure which has been shown to reduce young drivers' crash risk by 20 to 40 per cent. Further, Manitoba and New Brunswick have enacted .00% blood-alcohol concentration (BAC) limits for drivers under 21, and similar legislation is pending in Ontario and Nova Scotia. Other innovative measures include Prince Edward Island's seven-day license suspension for drivers with BACs above .05%, and Ontario's pending seven-day vehicle impoundment for those charged with Criminal Code impaired driving offences.

In preparing *Rating the Provinces and Territories*, researchers undertook a detailed analysis of impaired driving research from Canada and abroad to determine those measures that would be

most effective in reducing crash deaths and injuries. This analysis formed the basis of the rating scale, against which the provinces were rated by independent experts in the field.

Alberta scored relatively well for its alcohol interlock and vehicle impoundment programs, but poorly for having the lowest licensing age (14) in the country. MADD recommends that Alberta raise its minimum licensing age to 16, and strengthen its GLP to include stricter passenger and late-night driving restrictions, and limit driving on high-speed roads. Alberta should also introduce a .00% BAC limit during the first five years of licensure.

In terms of license suspensions, Alberta should increase its current 24-hour roadside suspension for suspected impaired drivers to at least seven days, with longer suspensions and remedial programs for repeat occurrences. The mandatory alcohol interlock program should be expanded to include all federal impaired driving offenders. Alberta should also strengthen its vehicle sanctions and remedial programs.

The need for action in Alberta is urgent. The most recent figures from the Canadian Council of Motor Transport Administrators (CCMTA) indicate that the number of motor vehicle deaths in 2006 was significantly higher than in the baseline period 1996-2001. In addition, Alberta had the highest rate of fatally-injured drivers with a BAC above .08% in the country (3.44 per 100,000 licensed drivers, compared to a national rate of 1.84).

MADD Canada's president, Margaret Miller, said that she looks forward to working with Alberta and all the provincial governments to create a safer future.

Full details of the report can be found at www.madd.ca.

Vancouver Charter on Skiing Safety

By Lisa Lipkin, Manager, Communications and Marketing, Safekids Canada

Safe Kids Canada is asking Canadians to show their support for the use of helmets during winter ski sports by signing the *Vancouver Charter on Skiing Safety*. Launched on November 20 at Safe Kids Canada's winter helmet safety forum in Vancouver, the Charter is designed to encourage the use of helmets during skiing and snowboarding activities. British Columbia was the first province to officially endorse the Charter, created in the context of the 2010 Winter Olympic Games. Since its unveiling, the province of Saskatchewan has shown support for the Charter and Safe Kids Canada continues to receive endorsements from national organizations.

"Given the increase in serious head injuries resulting from skiing and snowboarding activities, we felt it was time to ask Canadians to come together and show their support for protecting children from these preventable injuries," says Pamela Fuselli, executive director, Safe Kids Canada. "We want children to take part in sporting and recreational activities and to be active and healthy, while at the same time being safe by wearing a helmet."

An international review that includes Canadian data, has shown that while head injuries comprise only three to 15 per cent of all injuries suffered by skiers and snowboarders, a large percentage of skiing and snowboarding deaths, 87.5 per cent, have been caused by a head injury. More specifically, traumatic brain injury has been reported to account for 67 per cent of skier deaths in children. Research has shown that ski and snowboard helmets are effective at preventing head injuries. It is estimated that for every 10 people who wear a helmet, up to six may avoid head injuries.

The aim of the Charter is to promote a common goal among Canadians of creating a safe, healthy and active sporting and recreational culture for skiing and snowboarding activities. The Vancouver Charter is officially endorsed by Dr. Perry Kendall, Provincial Health Officer, Ministry of Healthy Living and Sport for British Columbia; Dr. Patricia Daly, Chief Medical Health Officer, Vancouver Coastal Health;

and Dr. Jack Taunton, Chief Medical Officer, Vancouver Organizing Committee for the 2010 Olympic and Paralympic Games.

"Disability and death due to traumatic head injuries is an important population and public health issue that results in an extensive financial and social burden on our society," says B.C. Provincial Health Officer Dr. Perry Kendall. "The Vancouver Charter provides a common ground for government and stakeholders involved in winter ski sports to collaborate in developing and implementing sound, evidence-based safety standards and policies on helmet use in recreational winter sport activities."

The *Vancouver Charter on Skiing Safety* is the successor to the *Turin Charter on Skiing Safety*, which was originally created during the 2006 Turin Winter Olympic Games. It was prepared by a panel of experts from European governments who worked under the coordination of the Turin Organizing Committee, BE.PRA.S.A. (a project co-financed by the European Commission and the health authority of the Italian region of Veneto) and the Italian National Health Institute. Following the Turin Winter Olympic Games, Italy passed legislation at the national level that now makes it mandatory for all children under the age of 14 to wear a helmet while skiing or snowboarding.

To read the *Vancouver Charter on Skiing Safety*, to see a list of organizations that have endorsed it and to show your support, visit www.safekidscanada.ca.

Update

As of the beginning of December, 31 organizations have endorsed the principles within the Vancouver Charter including the Alberta Centre for Injury Control & Research.

CALENDAR

Avalanche Awareness Days
Canadian Avalanche Association
January 8-10
Phone: 1-800-667-1105
Website: www.avalanche.ca/cac/events/avalanche-awareness-days

Minor Hockey Week
Edmonton Minor Hockey Association
January 15-24
Phone: 780-413-3498
Website: www.emha.ca

International Snowmobile Safety Week
Alberta Snowmobile Association
January 10-16
Phone: 780-427-2695
Website: www.altasnowmobile.ab.ca

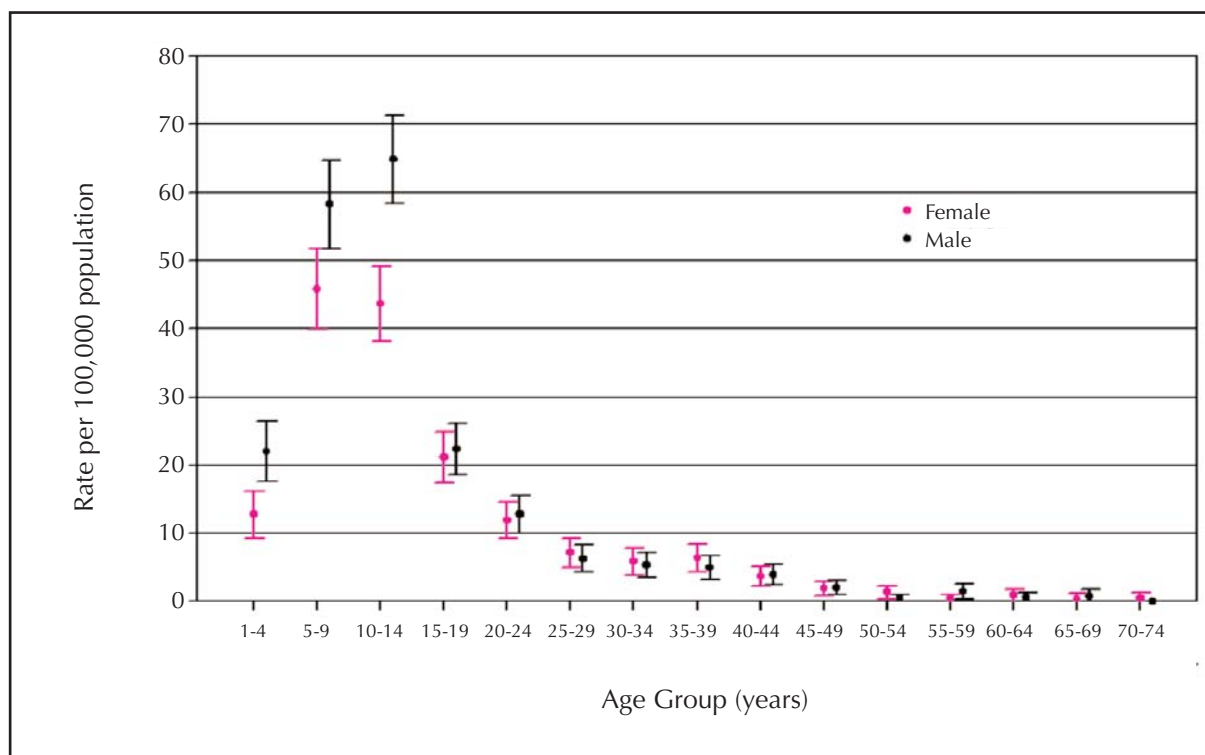
Healthcare for the Elderly
January 18-19
St. Andrew's Club and Conference Centre
Toronto, ON
Phone: 1-888-777-1707

First Canadian Fall Prevention Conference: Transforming Knowledge to Action
Pacific Palisades Hotel
Vancouver, BC
March 22-23
Website: www.fallpreventionconference.ca

Post-conference Canadian Falls Prevention Curriculum Facilitators' Training Session
March 23-24
Contact: Fahra Rajabali frjabali@cw.bc.ca or Sarah Elliott sarah.elliott@gov.bc.ca
Website: www.injuryresearch.bc.ca

Provincial First Aid Competitions
St. John Ambulance
April 17
Edmonton, AB
Phone: 780-452-6565
Website: www.sja.ca/ab

Tobogganing, Alberta 2004-2008



Over the five year period between 2004 and 2008, there were, on average, 410 tobogganing-related injuries treated in an emergency department each year. If you consider the tobogganing season taking place from December to March, this equates to an average of 102 tobogganing-related injury visits each month.

As expected, children had the highest number and highest rate of tobogganing injuries. Children between 5 and 9 years of age had an average of 27 visits each month during the tobogganing season. Children between 10 and 14 years of age had, on average, 31 emergency department visits each month during the tobogganing season.

Males accounted for 56 per cent of the visits with an average of 58 visits each month during the season and females accounted for the remaining 44 per cent with an average of 45 emergency department visits during the tobogganing season.

ICD-10CA codes: W22.01

Note: Seasonal weather conditions have not been considered.

Source: Alberta Centre for Injury Control & Research, Edmonton. Database held by Alberta Centre for Injury Control & Research (data obtained and received from Alberta Health and Wellness, December 2009, unpublished data available upon request).