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METHANOL - KILLER!

*Joan Mitchell

One of the most distressing intoxicants for Aboriginal people is methanol. This occurs in the spirit provided for duplicators used in schools. The spirit duplicators are cheap, versatile, and can print on different colours, so they are deservedly popular. But from time to time the local people sample the duplicating fluid, which is widely known to produce a big high, and to intoxicate like alcohol (ethanol). Many of these people have been lucky enough to wake up with a bad hangover. Others have become blind, or even died.

Are spirit duplicators too dangerous to keep in Aboriginal schools? Many people think so. In the Northern Territory they are steadily being removed from Aboriginal schools and being replaced by more costly types of duplicators such as photocopiers. Other people think that improved security for the fluid, and education about its risks, is a more commonsense approach to this problem.

The drawback to the "commonsense" solution is that people who are likely to drink methanol do not show commonsense. Sometimes they are muddled, sometimes desperate, or have been drinking alcohol and have lost their judgment. They break in to the school and get at it. Sometimes human error occurs, when teachers forget to lock it away. Result: blindness or death. It seems safer and wiser to discontinue the use of spirit duplicators.

Australian Aborigines do not have this problem on their own. Here is a report from Papua New Guinea:

Recently a number of gallons of duplicating fluid were stolen from a Port Moresby high school. A few days later, several young Papuan males from the Port Moresby area and in particular from near that high school, were admitted to the general hospital. One was dead on arrival, the others in a comatose state and at least one was unconscious. This condition was diagnosed as acute methanol poisoning, from which one later died and another was blinded. Earlier,

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three deaths amongst adult males occurred following admission to hospital. These followed a drinking party that started with the usual alcoholic drinks, like beer, and later shifted to methanol.

(K.J.Pataki-Schweizer 1976)*

The first aid treatment of methanol poisoning is not well known. Aborigines who have drunk methanol and been rushed to a health centre but not treated properly, have died. Health workers were alerted to the dangers of methanol and advised of the treatment in an article by Sister Joan Mitchell which appeared in "The Aboriginal Health Worker" Vol.5 No.1, March 1981, under the title "Killer Booze (Methanol) and the Remedy." The following is adapted from that article.

WHAT IS METHANOL?

Wood alcohol, also called methyl alcohol or methanol, is the 'killer'. It is present in duplicating fluid (kept in our schools in large quantities), antifreeze, paint remover, and the solvent in shellac and varnish.

Distilled beverages like whisky, brandy, rum and vodka contain ethyl alcohol and very small amounts of wood alcohol (methyl alcohol). The danger arises when the proportion of ethyl alcohol to wood alcohol is too low. The drink then is said to be contaminated. It is 'killer booze'.

DANGERS OF METHANOL

Firstly, wood alcohol, unlike ethyl alcohol in wine, beer and whisky, is broken down in the body to form a poison called formic acid.

Secondly, the body takes five times longer to get rid of wood alcohol than ethyl alcohol. The poison and the alcohol build up, resulting in damage to the liver, the lungs, the kidneys, the heart, and the eyes. The effect is so strong that only 60 to 250 ml. (2 to 8 oz) of wood alcohol is needed to kill a person or leave him permanently blind.

* Meth-drinkers and lotus eaters: some educational aspects of transcultural psychiatry in Papua New Guinea. *Australia and New Zealand Journal of Psychiatry*, 10:129-131.

SIGNS OF POISONING

Immediate action by health workers can save peoples' lives and sight. The most obvious warning sign is that sight is affected. If the poisoning is *mild*, the person will complain of tiredness, headache and nausea. If it is *moderate*, he will complain of severe headache, dizziness, vomiting, disturbed vision and slow reactions. After two to six days, sight might be lost temporarily. If it is *severe*, he may show all the above, with rapid shallow breathing, loss of consciousness, low blood pressure and enlarged pupils. One in every four people with severe poisoning dies.

TREATMENT FOR METHANOL POISONING

Severe poisoning can be avoided by prompt action. If the methanol has been swallowed in the last two hours the treatment is:

- 1) Remove any further methanol.
- 2) Arrange for the person to be treated in hospital immediately.
- 3) Get the person to vomit by using salt water, or fingers down the throat.
- 4) Give the *antidote* - *ethyl alcohol*, as ordered by the doctor. The dosage is -

ethyl alcohol 50 per cent in water,
repeated every four hours for four days.

If there is no pure ethyl alcohol available, use *whisky*, *methyalted spirits* or *brandy* instead, as ordered by the doctor. The ethyl alcohol blocks the breaking down of the wood alcohol in the body. Because of this, less poison is formed. The repeated doses of ethyl alcohol over four days allows time for the body to get rid of the wood alcohol.

- 5) Treat the acidosis with sodium bicarbonate or other fluids as ordered by the doctor. In hospital, the level of acidosis can be constantly checked and treated.
- 6) Protect the eyes from light.
- 7) Keep the body warm.

The use of the antidote, *ethyl alcohol*, can stop the build up of poisons and save people's lives and sight.

In Vol.5 No.2 of "The Aboriginal Health Worker" the following additional comments on methanol appeared.

There's a world of difference between ETHANOL and METHANOL. In the March issue Sister Joan Mitchell told us about deaths and blindness in Aboriginal people who drank METHANOL. They did not realise how dangerous this poison is. Sister Mitchell described the emergency treatment with the antidote ETHANOL. This seems to be the one occasion we know of when whisky or brandy could save a life.

Sister Mitchell mentioned that methylated spirits could also be used as an antidote. A doctor wrote to us, asking if this was a mistake. It seemed wrong! The answer is, it is no mistake. In outback areas, or on missions where there is no ethyl alcohol available, methylated spirits is an effective antidote for methanol poisoning. But check the label first. Most samples of methylated spirits, including that kept in hospitals, contain only 2% methanol, and can be used for this purpose.

Sister Mitchell confirmed this with the Poisons Information Centre of the New South Wales Health Commission, and the Poisons Information Centre at Princess Alexandra Hospital, Sydney. The health worker should consult the Poisons Manual. There should be one in your library. Your knowledge could save someone's life or eyesight. *The Spirits Act, 1906-1973* of the Commonwealth of Australia sets out the conditions relating to the manufacture and use of methylated spirits.

Clearly it would be better to use ethanol products as the antidote to methanol poisoning, but if there are none available, use methylated spirits (2%).

To prevent further tragedies in your community, visit the school to make sure the duplicating fluid is safely locked away. Check if there is any other source of methanol in the community: IT IS KILLER BOOZE. Try to get the school to adopt another system of duplicating.

Thank you, Sister Mitchell, for alerting us to this growing menace.

References

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