

Could It Be Methanol Poisoning?

1 Symptoms


 0–12 hours
 (or more if concomitant ethanol)

History of drinking?

Has the patient taken illegal/bootleg alcohol and/or drinking together with suspected cases of methanol poisoning?




 12–24 hours
 (or more if concomitant ethanol)

Feeling Hungover?

Feeling nauseous and unwell.



Chestpain or gastrointestinal symptoms?

Heavy chestpain and gastrointestinal (GI) symptoms, stomach ache.



Hyperventilation?

More than 25 respirations per minute.



Visual Disturbances?

All kinds of visual disturbances, from blurred vision to complete blindness.




 24–48 hours
 (or more if concomitant ethanol)

Coma?

Unconscious.



2 Treatment

A If asymptomatic patient: Observe. (See under symptoms below left).

B Hyperventilation, no visual disturbances: Give ethanol and bicarbonate. Observe minimum 24 hours.

C Hyperventilation, visual disturbances, conscious: Give ethanol, bicarbonate, folinic (or folic) acid, consider transport to dialysis facilities.

D Hyperventilating, coma: Give ethanol, bicarbonate, folinic (or folic) acid, transport to dialysis facilities.

E Normoventilation or hypoventilation (slow breath), coma
 Likely poor prognosis if methanol poisoning. Be careful with ethanol in case this is an ethanol intoxication unless confident of methanol poisoning. Give bicarbonate, folinic (or folic) acid and consider transport to referral hospital.

3 Dosage

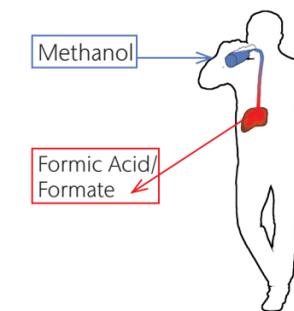
Bicarbonate (NaHCO₃):

- **500 mmol/L:** Give 250–500 mL or more within 1–2 hours until hyperventilation is corrected (RF <20 /min).
- **167 mmol/L:** Give 1000–1500 mL or more within 1–2 hours until hyperventilation is corrected (RF <20 /min).
- **If only oral treatment is available:** Tablets of 500 mg bicarbonate (= 6 mmol), 6–10 tablets every hour until hyperventilation is corrected (RF <20 /min).

Folinic (or folic) acid: 50 mg iv. or orally (e.g. 10 tablets of 5 mg) every 6 hours for 24–48 hrs.

If intubation is necessary: The patient must be hyperventilated (RF >25/min) (until transferred to a unit with ICU.) Give antidote (ethanol orally or intravenously) without delay. Please see dosaging below.

ETHANOL:	5 % ETHANOL (beer)	10 % ETHANOL (wine)	20 % ETHANOL (fortified wine)	40 % ETHANOL (spirits)
Loading dose:	15 mL/kg	7.5 mL/kg	4 mL/kg	2 mL/kg
Drinking dose (hour) (not regular drinker)	2 mL/kg/hr	1 mL/kg/hr	0.5 mL/kg/hr	0.25 mL/kg/hr
Drinking dose (hour) (regular drinker)	4 mL/kg/hr	2 mL/kg/hr	1 mL/kg/hr	0.5 mL/kg/hr



Methanol is not in itself toxic, but is metabolised to the highly toxic formic acid. Treatment focuses on blocking the enzyme (ADH) with antidote (ethanol), buffering the metabolic acidosis with bicarbonate, and, if possible, using dialysis to remove methanol and formate thereby correcting the metabolic acidosis. Folinic acid may also be given to enhance the endogenous metabolism of formate.

When to call for assistance:

If there are patients with a strong suspicion of methanol poisoning, call the local referral hospital for advice and to discuss possibilities for intervention. One of the most important reasons for this is the possibility to identify toxic alcohol in the environment, starting early treatment, and be able to warn the public about the possible danger.

Where there is one there are usually many.