

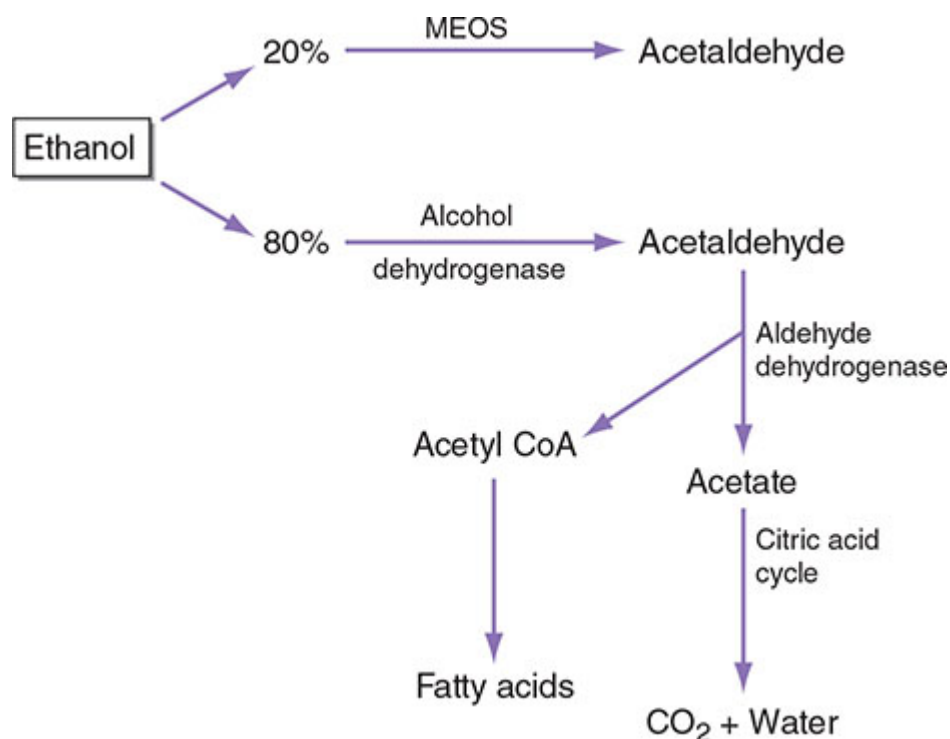


FIGURE 453-1 The metabolism of alcohol. CoA, coenzyme A; MEOS, microsomal ethanol oxidizing system.

Although a standard drink contains ~300 kJ, or 70–100 kcal, these are devoid of minerals, proteins, and vitamins. In addition, alcohol interferes with absorption of vitamins in the small intestine and decreases their storage in the liver with modest effects on folate (folacin or folic acid), pyridoxine (B₆), thiamine (B₁), nicotinic acid (niacin, B₃), and vitamin A.

Heavy drinking in a fasting, healthy individual can produce transient hypoglycemia within 6–36 h, secondary to the acute actions of ethanol that decrease gluconeogenesis. This can result in temporary abnormal glucose tolerance tests (with a resulting erroneous diagnosis of diabetes mellitus) until the heavy drinker has abstained for 2–4 weeks. Alcohol ketoacidosis, probably reflecting a decrease in fatty acid oxidation coupled with poor diet or persistent vomiting, can be misdiagnosed as diabetic ketosis. With alcohol-related ketoacidosis, patients show an increase in serum ketones along with a mild increase in glucose but a large anion gap, a mild to moderate increase in serum lactate, and a β -hydroxybutyrate/lactate ratio of between 2:1 and 9:1 (with normal being 1:1).