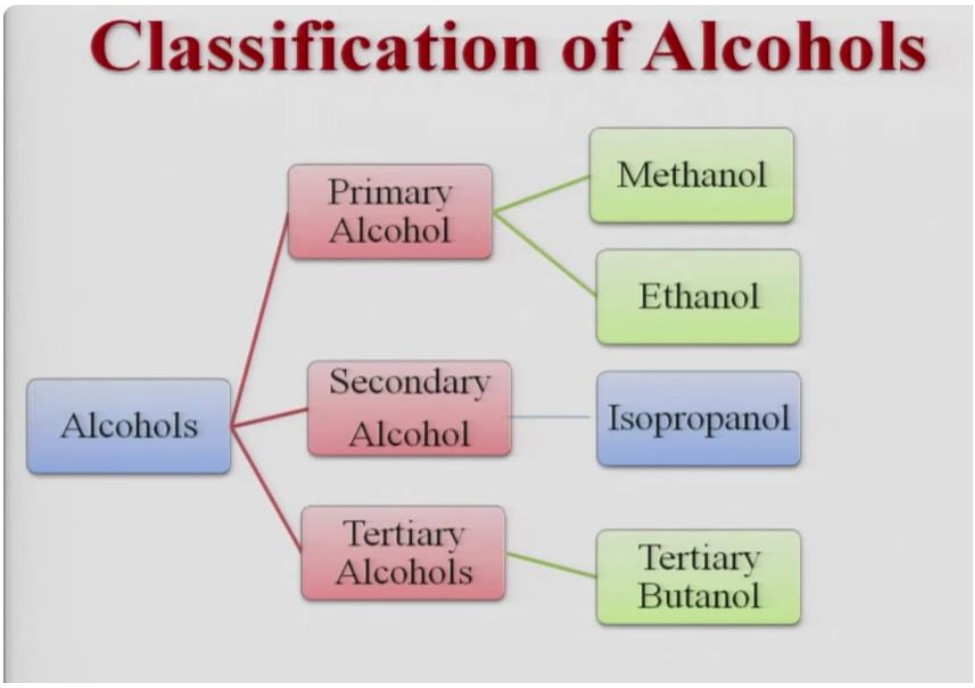
ALCOHOL AND DISULFIRAM

- Absolute alcohol= 99% w/w ethanol
- Rectified spirit= 90% w/w ethanol produced by fermentation of molasse.
- Proof spirit= Whisky + gun powder + ignited= explodes= proof strength.

Alcohol

- Alcohol, primarily in the form of ethyl alcohol (ethanol), has occupied an important place in the history of humankind for at least 8000 years
- Alcohols are hydroxy derivatives of aliphatic hydrocarbons
- When alcohols unpurified called as ethyl alcohol/ Ethanol
- Alcohols are manufactured by Fermentation of sugars



PHARMACOLOGICAL ACTION

1. **Local action:** Rubefacient, Astringent, Counter irritant, Antiseptic
2. **CNS effect:** CNS depressant, Euphoria and decreased anxiety at small dose, at high dose mood and feeling altered, impair muscle coordination
3. **CVS effect:** Gastric vasodilation and skin is warmed and flushed at small dose, Tachycardia and mild increase in B.P. at moderate dose, Myocardial depression at high dose

4. **Blood**: Regular intake with small dose causes increase HDL cholesterol level
5. **Body temperature:** Produce sense of warmth due to cutaneous and gastric vasodilation at small dose, Depress temperature regulating center
6. **Respiration**: Brandy and Whisky= Respiratory stimulant
7. **GIT**: Irritant and increase gastric acid secretion (Appetizer) overdose= gastric

8. **Liver**: Fatty liver, Enlargement of liver Chronic use (increase microsomal enzyme)
9. **Skeletal Muscle**: Decrease Fatigue
10. **Kidney**: Diuretic
11. **Aphrodisiac**: Increased sexual behavior
12. **Endocrine**: (Nor-adrenaline) Increase adrenaline, (Hypoglycemia) Increased sympathetic effect

Ethanol act by-

- Inhibiting cholinergic nicotinic receptors.
- Influence many I.M. channel inducing K+.

Drug Interaction-

- Alcohol= Synergistic- Antianxiety, Anti-depressant, Hypnotic
- Hypoglycaemic effect of insulin and sulfonylureas= increases
- Alcohol with aspirin and NSAIDs= Increase gastric bleeding

Contraindication:

- Patient with peptic ulcer
- Epileptic patients
- Patients with liver damage
- Pregnant women

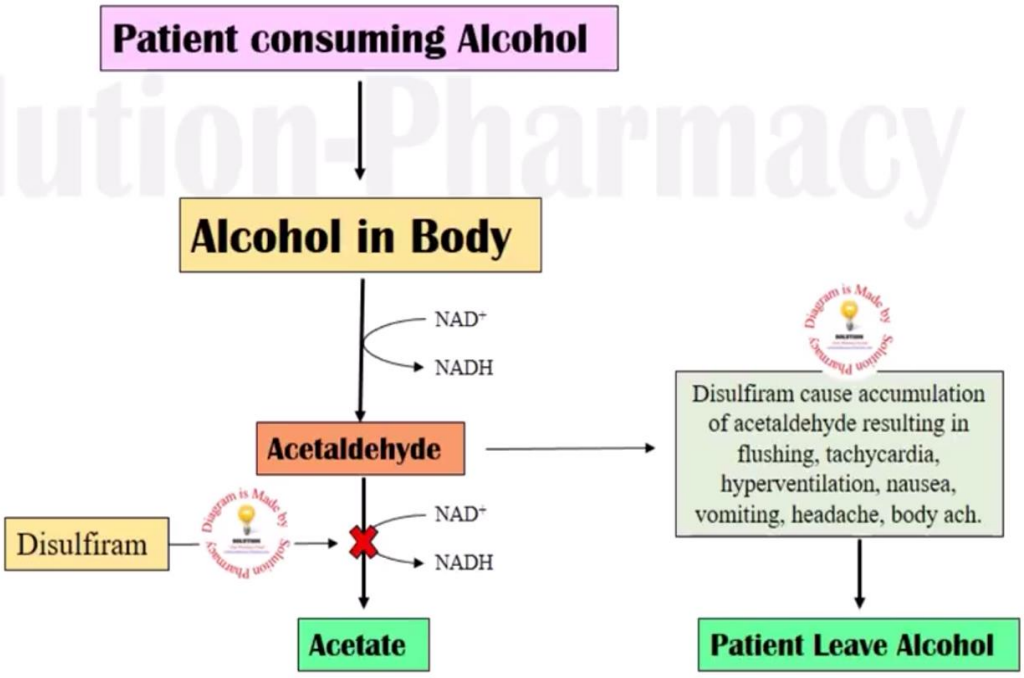
Side effects- Nausea, Vomiting, Flushing, Hangover

Severe effects- Unawareness, non-responsiveness, hypotension, respiratory depression, coma, death

Disulfiram

- Disulfiram is an aldehyde dehydrogenase inhibitor
- It is used in chronic alcoholics
- When alcohol injected after taking Disulfiram, the concentration of acetaldehyde in tissues and blood rises & aldehyde syndrome produced promptly

Mechanism of Action of Disulfiram



Ethanol —(Alcohol Dehydrogenase)→ Acetaldehyde —(Acetaldehyde Dehydrogenase)→ Acetate