

## Physical Effects of Alcohol

- I. Natural Properties of Alcohol
  - A. Dehydrator - Drives away Water
    - 1. Dry Mouth with Hangover
    - 2. Dries out Body Tissues
  - B. Solvent
    - 1. Paint Thinner, Stain Remover
- II. Effects on Body Tissue
  - A. Irritant (solvent, dehydration)
  - B. Sedates
    - 1. Alcohol is a Central Nervous System depressant
    - 2. Slows body functions, Lowers body temperature
- III. Alcohol and Nutrition - 5 Main Effects
  - A. Substitution: Empty calories, No nutritive value, drink rather than eat
    - 1. Eliminates zinc from body - reduces taste
    - 2. Aggravates nausea - skip breakfast
  - B. Malabsorption - inflames stomach/intestinal tract - stops absorption:
    - 1. Protein and vitamins B & C (stomach)
    - 2. Vitamins A, D, K (K=bruising) (intestine)
  - C. Blocking - interferes with ability to use vitamins
    - 1. B = Nerves, B12 & K = Night Blindness
  - D. Alters Organ Function
    - 1. Liver can't handle fats - gouty arthritis
    - 2. Alters Pancreas (sugar metabolism)
    - 3. Affects Heart (3 or more/day)
  - E. Hyper-excretion
    - 1. Increases loss of vitamins and minerals
    - 2. Weakens: bones, appetite, sex drive,...
    - 3. Caffeine - Causes Gastritis
    - 4. Nicotine - narrows blood vessels, cuts oxygen, reduces absorption of nutrients
- IV. Alcohol and the Brain
  - A. Intellect / Judgment
    - 1. Thinking and judgment affected first- sedation
    - 2. Intellect rules emotions, inhibitions lowered, act!
  - B. Emotions
    - 1. Amplified / Exaggerated
  - C. Voluntary Motor Center
    - 1. Driving, Walking, talking, ..
    - 2. Relaxes motor center, reaction time slows,
  - D. Semi-Voluntary Motor Center
    - 1. Sneezing, Coughing, ..
    - 2. With relaxation -- Pass Out!
  - E. Involuntary Motor Center
    - 1. Breathing, Heart Rate, Body Temperature
    - 2. Complete relaxation = DEATH
  - F. Brain Cells - Killed by Alcohol/Drugs
    - 1. Do Not Regenerate
    - 2. Organic Brain Syndrome (Korsakoff's Syndrome)

"WET BRAIN"

- V. Alcohol/Drug Tolerance
  - A. Social vs Problem Tolerance
  - B. Tolerance Progression
    - 1. Increases -- Plateaus -- Decreases
      - a. Decrease = Liver Damage
- VI. Alcohol Withdrawal
  - A. Rebound Effect
    - 1. Rebound = agitation, anxiety, over-alertness, ...
      - a. 4-6 Drinks/ 5-7 Hrs. = 16-24 Hrs. Rebound
  - B. Sleep Disturbance
    - 1. REM Sleep Decreased
    - 2. Vivid dreams - may awaken!!
  - C. Withdrawal Symptoms
    - 1. Tremors - Begin within 8 hrs, last 2-10 days.
    - 2. Seizures- Greatest Risk in first 48-72 Hrs
    - 3. Hallucinations - 48-72 Hrs
    - 4. Delirium Tremens - (DT's) Life Threatening - 4-5 Days at Risk - fever, agitation, delusions, ...
- VII. Fetal Alcohol Syndrome
  - 1. 1/2000 babies born with FAS
  - 2. Symptoms
    - a. Miscarriages, premature births, slow growth, small heads, facial irregularities, defective organs, malformed limbs
    - b. Behavioral - Mental retardation, poor attention spans, hyperactivity, learning disabilities, ...
  - 3. Causes
    - a. Alcohol/Drugs pass through placenta to unborn child, then into child's bloodstream.
    - b. Interferes with oxygen uptake, child starved for oxygen. (Theory #1)
    - c. Inhibits absorption of zinc. Zinc spurs growth and development. (Theory #2)
  - 4. "Safe" Quantity of Alcohol/Drugs
    - a. UNKNOWN !!
    - b. DON'T DRINK!! No alcohol/drug use ensures no problems.

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