



National Awareness Workshop

Session 2:

Alcohol and other Drugs in the body – substance, use and effect





Substances, use, and effects

- Physical effects
- Physical symptoms and work performance
- Physical effects and workplace safety
- Over-the-counter and prescription medications





Substances, use, and effects

“The sufferer is tremulous, and loses his self command; he is subject to fits of agitation and depression; he loses colour and has a haggard appearance. The appetite falls off, and symptoms of gastric catarrh may be manifested. The heart also suffers; it palpitates, or it intermits. As with other such agents, a renewed dose of the poison gives temporary relief, but at the cost of future misery. A grievous sinking may seize upon a sufferer. By miseries such as these, the best years of life may be spoilt.”

Sir T Clifford Allbutt & Humphrey Davy Rolleston (eds) 1909
A System of Medicine vol 2 part 1, Macmillan, London, pp 986-7

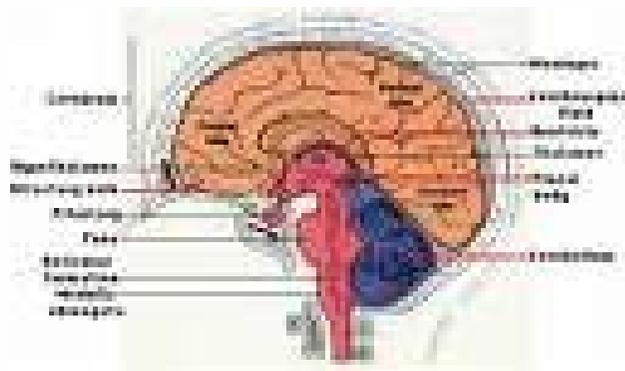
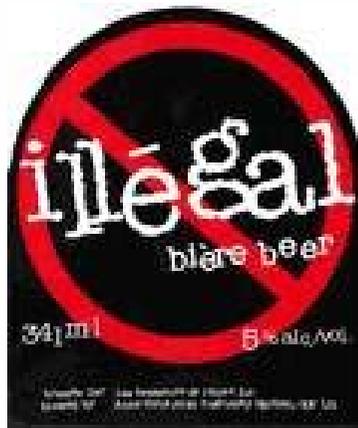




Substance, use and effect

How to classify drugs:

- Hard and soft drugs?
- Legal and illegal (or illicit) drugs, and decriminalisation?
- Effects on central nervous system?





Substance, use and effect

What will be tested for in the aviation industry?

- Alcohol
- THC (Cannabis)
- Amphetamines
- Benzodiazepines
- Opioids
- Cocaine





Alcohol

Central nervous system depressant

Immediate effects: relaxation, feeling of well-being, loss of inhibitions, unclear judgement, uncoordinated movements, slow reactions, blurred vision, slurred speech, aggression, vomiting, loss of consciousness

Long term effects

Frequent infections, stomach inflammation, skin problems, memory loss/confusion, heart and blood disorders, liver and brain damage (some irreversible)





Alcohol

- More than 3500 deaths annually attributed to alcohol consumption in Australia (about 10 each day)
- Frequent high-risk drinkers are 26 times more likely to miss a work day due to alcohol use
- Even small amounts of alcohol impair judgement, coordination and affect decision-making skills
- Hangover effect – several hours after return to 0.00 Blood Alcohol Concentration (BAC)





Alcohol - BAC

- Amount of alcohol in your blood stream is called BAC
- BAC rises as alcohol enters blood
- May peak after you've stopped drinking
- Food slows down absorption of alcohol but doesn't decrease BAC

Affected by:

- how much you drink and how long you take to drink it
- your size/weight
- your sex
- mood or fatigue
- personal chemistry, tolerance and fitness
- other drugs





Alcohol - BAC

BAC is not reduced by:

- drinking coffee (or anything else), eating, chewing gum, eating mints or breath freshener, taking a shower (hot or cold), exercising, vomiting or urinating, smoking, fresh air

BAC is reduced by:

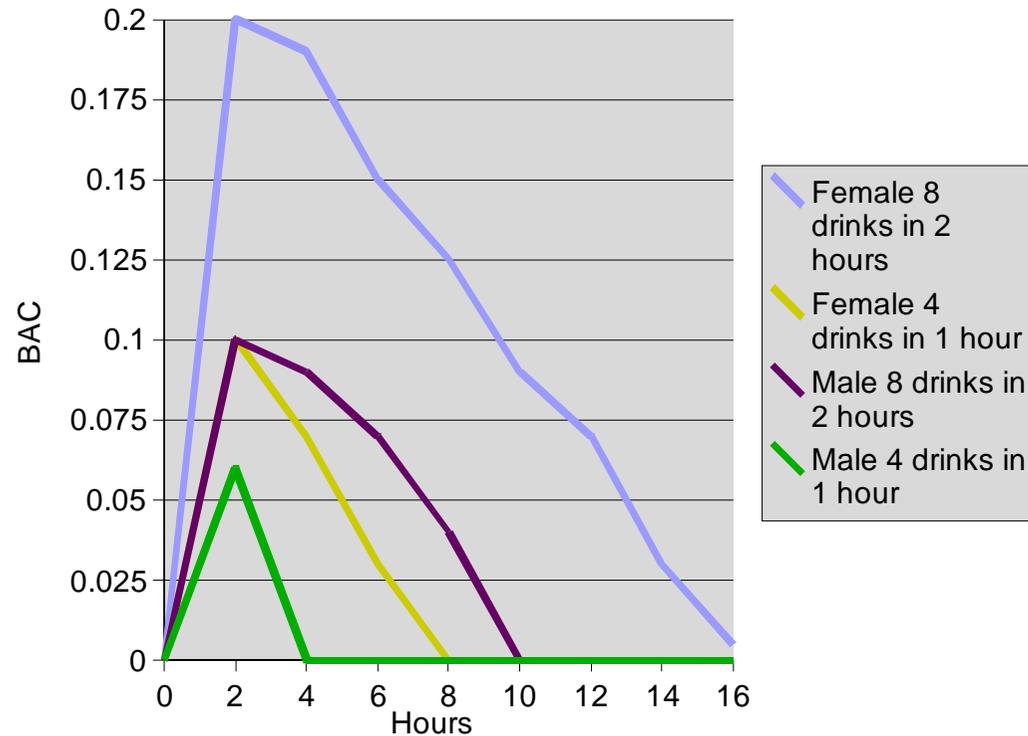
- time (on average – one hour per standard drink. However females reach twice the BAC so it will take twice as long thus allow two hours per standard drink consumed)





BAC elimination rate

Returning BAC to Zero





Alcohol – standard drinks



* NSW, WA, ACT = Middy; VIC, QLD, TAS = Pot; NT = Handle; SA = Schooner





Cannabis

Central Nervous System depressant / hallucinogen

Immediate effects:

relaxation, feeling of well-being, loss of inhibitions, unclear judgement, uncoordinated movements, impaired balance, tendency to talk and laugh more than usual, increased appetite, tunnel awareness

Long term effects:

increased risk of bronchitis, lung cancer and respiratory diseases, amotivational syndrome, decreased ability to concentrate





Cannabis

- Low toxicity for humans
- Mental health issues
- Potency debate
- Legal status
- Cannabis as medicine
- Effects 30 mins to several hours.





Ecstasy

Central Nervous System stimulant with mixed hallucinogenic properties

Immediate effects:

empathy, euphoria, closeness with others, feeling that everything is right with the world, increased self-confidence, increased energy, heightened perceptions

Long term effects:

not known





Ecstasy

- Some widely publicised ecstasy-related deaths. Deaths are rare given large number of users and usually due to context of use, not the drug alone
- Dependence is less common, due to the pattern of use and the rapid decrease in positive effects/increase in negative effects (jaw-clenching, nystagmus, sweating)
- Acute complications following ecstasy use are unpredictable
- Effects 30 mins to several hours.





Methamphetamines

Central Nervous System stimulant

Short-term effects:

Increased heart rate, breathing and blood pressure, dry mouth, increased pupil size, heightened energy and confidence. High state of alert, restlessness and excitability. Panic attacks, irritability.

Long-term effects:

Chronic sleep problems, anxiety and tension, malnutrition, psychosis (delusions, hallucinations, bizarre behaviour), reduced resistance to infections, increased propensity for violence, cognitive damage.





Methamphetamines

- Amphetamine/methamphetamine
- Powder, crystal, base/wax (less common)
- Dependence is a difficult (but not impossible) disorder to treat
- Currently no medications that can quickly and safely reverse life threatening MA overdose, or reduce paranoia and psychotic symptoms (speed psychosis)





Methamphetamines

■ Effects:

- Injecting – immediate, lasts hours
- Smoking – immediate, last hours
- Swallowing – 30 minutes, lasts several hours.

■ Potency:

- Powder (Speed) – about 15% pure MA
- Crystal (Ice) – about 85% pure MA





Over-the-counter and prescribed medications

- Medications may have effects on the body that can lead to harm in the workplace
- Appropriate use of medications should not be discouraged – someone might be more dangerous off a medication they should be taking than on it
- You have a responsibility to be aware of potential effects ... check with your doctor or pharmacist and follow instructions. Don't mix medications with alcohol





Over-the-counter and prescribed medications

Some medications might:

- impair coordination
- affect memory and concentration
- impair vision
- cause drowsiness or sedation
- reduce your decision-making capacity



You're unlikely to return a positive test if you are taking:

- anti-depressant or anti-anxiety medication, anti-hypertensives, antibiotics, HIV/AIDS medications, contraceptive pill or Viagra





Over-the-counter (OTC)

DXM

- A hallucinogenic cough suppressant

Codeine

- Commonly used opioid analgesic/painkiller

Pseudoephedrine

- Stimulant used in cold and flu medications





Take a break...

