1) Definitions

Spectrum of severity: use – misuse – abuse – dependence

Misuse: sporadic use without apparent adverse consequence; will or unintentional

Abuse: frequency of consumption may vary; some adverse consequences or clinical impairments are experienced by user (dorries begin to fall)

Addiction’s 4Cs: LOSS of control over substance use with craving &/or compulsive use which is continued despite harm. (major dominion effect)

Pseudoaddiction: drug seeking behaviour mimicking addiction resulting from under-treatment of pain. (But i/o pain +, e.g. dual diagnosis.)

Dependence, physical: a state of adaptation resulting in drug class-specific withdrawal symptoms upon abrupt dose reduction, decreasing drug levels or antagonist administration. (Not to be confused with addition)

Detoxification-managing acute withdrawal: treatment intended to remove the physiological effects of the addictive substances (protocols)

-Social Detox: managed & engaged in recovery; 3-10 day stay

-Brief Detox: ~24 hour observation; not medically managed.

Harm Reduction: measures taken to address problems (e.g. social) without necessarily requiring abstinence or cessation of drug use

Tolerance: ↓ effect of a drug over time, or ↑ dose required for same effect

Tolerance & physical dependence should not be confused with addiction

Addiction is characterized by compulsive use of a substance or preoccupation with obtaining it despite evidence that continued use causes harm (physical, emotional, social &/or economic) 2

2) Statistics From the Literature (CADUMS 2011/2013)

- The prevalence of past 12 month cocaine (1.1%), ecstasy (0.5%), speed (0.5%) and methamphetamine (0.2%) 2000 compared to rates reported in 2004.

- The rate of drug use (cocaine or crack, speed, ecstasy, hallucinogens including salvia) or heroin by youth 15-24 yrs is much higher (6.5%) than reported by adults ≥25 yrs (1.2%).

- The overall rate of psychoactive drug use, including opioids was 24% for ≥15yrs. 6.3% indicated they had abused such drug. 1 overdose/death with opioids. 2012-15

- 72% of non-medical opioids used by students were obtained from home 4

- The prevalence of harm 4x higher among youth aged 15 to 24 yrs (5.5%) than adults aged 25+ yrs (1.4%). (Age adjusted mortality ↑ in urban drug addicts &↑ in rural drug addicts (~ daily use vs. 3-4 times per week)

- (Immature related to social life, health, work, studies, or employment, financial, legal, housing or learning.)

- ~10% report/drug/alcohol as reason for ever sexual intercourse 4

5) Universal Precautions - Opioid Pain Medicine 11,12,13

- Assumes that one cannot always determine who will become a problem opioid user; thus, suggests a minimum level to assess & manage risk.

1. Make a diagnosis with appropriate differential (pain = sensory & emotional)

2. Psychological Assessment Including Risk of Addictive Disorders

3. Coping issues. Include discussion of urine drug testing (UDT)

4. Inform Consent &/or use of a Treatment Agreement (samples) 14

5. Pre/Post-Intervention Assessment of Pain & Function

6. Appropriate Trial of Opioid Therapy +/- Adjusts +/- Non-Tx Drug

7. Have an “Exit Strategy” for discontinuing opioids if lack benefit.11,15

8. Reassessment of Pain Score & Level of Function

9. Regularly review the “five As” Analgesia, Activity, Adverse effects, Abarrent behavior & Accurate medical records.

10. Periodically review pain diagnosis & comorbid conditions, including addictive disorders. Use a Titrination of Controlled Substances Agreement as needed.

11. Document: assessment, discussions & progress

3) Alcohol (EtOH) See also Alcohol Use Disorder chart, pg 185-186.

- EtOH is a leading cause of serious injury, accidental death, birth defects

2. Standard drink: 13.7 grams (0.6 ounces) of pure alcohol or:

- 5-ounces 142mL of wine (12% EtOH)

&/or

- ~ 1/mo 1/wk

5) Addiction Screening: CAGE, AUDIT, Other

1) How often have you taken 1 drink containing alcohol?

2) How many drinks do you have on a typical day?

3) How often do you have 4+ drinks on one occasion?

4) How often last year were you not able to stop drinking?

5) How often last year did you fail to do what was expected…?

6) How often were you annoyed when others criticized your drinking/drug use?

7) Have you ever felt the need to cut down or change your drinking/drug use?

8) Have you ever felt guilty about your drinking/drug use for any reason?

9) Are illicit drugs available at school/work? Any close friends who use drugs?

10) Has a relative, friend or doctor been concerned about your drinking?

AUDIT: 10 questions to assess alcohol use patterns. 0-4 = low risk; 5-10 = moderate risk; >10 = high risk

Single Question Screen: How many times in the past year have you had x or more drinks in a day? (where x = 4 for drinks of 9 & 5 for drinks for 12)

6) Red Flags – Aberrant Rx Drug Use if...

Consider Discontinuation / Special Referal if...

1. Prescriptions from multiple physicians (check profile when available)

2. Frequent visits to emergency room requesting drugs of abuse

3. Requests from patients outside local area! Check picture ID!

4. Stolen, modified or tampering of prescriptions

5. Polypharmacy with CNS depressants, habituating substances

6. Forgery, selling, stealing, or using other persons medications

7. Injecting or oral chewing long-acting formulations

8. Reassess Regimen &/or Treatment Agreement if...

1. Rapid ↑ in opioids doses in chronic ~100mg morphine equiv.

2. Frequent early refills, or excuses for running out of or losing Rx’s

3. Frequent changes of the opioid prescribed

4. Aversion to concurrent recommended non-opioid treatment or UTD

5. Request for brand-name vs generic & short vs long-acting products

6. Lack of request for adjunct analgesic refills

7. Missed follow-up visits. 8. UNSANCTIONED non-compliance with regimen

8) Principles of Addiction Treatment

1. No single treatment is appropriate for all; concomitant medications are useful for many; treatment needs to be readily available

2. Attending to multiple needs, not just drug use, only way for success

3. Assess for medical, family, vocational, social & legal services

4. Ensure adequate time in treatment (~3 months)

5. Arrange for counselling & behavrial tx individual or group

6. Integrate treatment for those with mental disorders

7. Acute detoxification is only the 1st stage in long-term tx

8. Treatment does not need to be voluntary to be effective

9. Drug & alcohol use monitoring should be ongoing

10. Assess for HIV/AIDS, HBV, HCV, etc. & provide counselling regarding risk behaviours (sexual contacts, drug use, etc.)

11. Expect a long-term process with possible relapses.

12. Individualize “self-help” & spiritual adjunct support programs

13. Amnesia: rapid & accurate improvement of tremor, posture, gait

14. Pre-Intervention Assessment of Pain & Function

15. No later than 1 week after starting treatment

16. Individuals recovering from alcoholism, or having familial hx of alcoholism.

17. Adolescents: especially vulnerable (neurodevelopment & behaviour)

18. Problems: health, ↑ infection/violence/aggression, ca, impaired driving...

19. Recovery must be functional not just stopping or decreasing use (e.g. identify life skills lacking & move toward achieving/functaining/)

20. Toxic Alcohols e.g. methanol, look for: contact poison centre re. management

4) Addiction Screening: CAGE, AUDIT, Other

C - have you ever felt the need to cut down or change your drinking/drug use?

A - do you get Annoyed when others criticize your drinking/drug use?

G - have you ever felt guilty about your drinking/drug use for any reason?

E - Eye-opener: Have you ever felt the need for a drink early in the morning to decrease hangover or withdrawal?

When assessing a patient’s answers to the above questions: one YES suggests caution; ≥ 2 YES suggests strong caution/need for vigilance.
**Valproic Acid**: for Status epilepticus, can be substituted for benzodiazepines.

**Opioids/Drugs**

**Methadone**: Used to treat opioid addiction.

**Buprenorphine**: Used as an alternative to methadone.

**Non-Benzo Benzodiazepines**: Used in the management of benzodiazepine withdrawal.

**Benzodiazepine Antagonists**: Used to treat benzodiazepine overdose.

**Naloxone**: Used to treat opioid overdose.

**Loperamide**: Used to treat opioid diarrhea.

**Baclofen**: Used to treat muscle spasticity.

**GABA Agonists**: Used to treat benzodiazepine withdrawal.

**Tricyclic Antidepressants**: Used to treat benzodiazepine withdrawal.

**Methylphenidate**: Used to treat ADHD.

**Cocaine**: A stimulant drug that can cause a range of symptoms.

**Ecstasy**: A hallucinogen that can cause a range of symptoms.

**Amphetamines**: A stimulant drug that can cause a range of symptoms.

**Hallucinogens**: A class of drugs that can cause a range of symptoms.

**Cannabinoids**: A class of drugs that can cause a range of symptoms.

**Marijuana**: A drug that can cause a range of symptoms.

**Heroin**: A drug that can cause a range of symptoms.

**Pain Management**: A range of medications used to manage pain.

**Naloxone**: A drug used to reverse the effects of opioids.

**Acute Intoxication**: A state of intoxication that requires immediate medical attention.

**Long-Term Withdrawal**: A state of withdrawal that can last for months or years.

**Addiction**: A state of dependence on a drug or substance.

**Detoxification**: The process of removing a drug from the body.

**Maintenance Treatment**: The ongoing treatment of addiction.

**Relapse Prevention**: The prevention of drug use after detoxification.

**Recovery**: The process of returning to normal function after addiction.

**Support Groups**: A form of support that can help individuals with addiction.

**Community Support**: A form of support that can help individuals with addiction.

**Legal Intervention**: Legal measures that can be taken to address addiction.

**Treatment Options**: A range of options for treating addiction.

**Prevention**: Measures taken to prevent addiction from occurring.

**Education**: Education about the dangers of drug use.

**Research**: Research into the causes and treatments of addiction.

**Policy**: Policy decisions that affect drug use and addiction.

**International Cooperation**: Cooperation between countries to address addiction.

**Public Health**: The health of a population as a whole.

**Epidemiology**: The study of the distribution and determinants of health and disease conditions in specified populations.

**Genetics**: The study of inherited traits.

**Environmental Factors**: Factors in the environment that can affect drug use.

**Socioeconomic Factors**: Factors related to a person's economic status that can affect drug use.

**Cultural Factors**: Factors related to a person's culture that can affect drug use.

**Psychological Factors**: Factors related to a person's mental health that can affect drug use.

**Behavioral Factors**: Factors related to a person's behavior that can affect drug use.

**Pharmacological Factors**: Factors related to the drug itself that can affect drug use.

**Economic Factors**: Factors related to a person's economic status that can affect drug use.

**Legal Factors**: Factors related to the law that can affect drug use.

**Societal Factors**: Factors related to a person's society that can affect drug use.

**Personal Factors**: Factors related to a person's individual characteristics that can affect drug use.

**Environmental Exposures**: Factors in the environment that can affect drug use.

**Socioeconomic Exposures**: Factors related to a person's economic status that can affect drug use.

**Cultural Exposures**: Factors related to a person's culture that can affect drug use.

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**Personal Exposures**: Factors related to a person's individual characteristics that can affect drug use.
Management Of Substance Abuse In Emergency

Aim: down morbidity & mortality; down risk of relapse; consider plan short & long term

Assessment & Management issues:
- Infections: soft tissue; other (endocarditis, HIV, hepatitis, etc.)
- Overdose vs Intoxication vs Withdrawal vs Other (Other e.g. subdural hematoma from fall, stroke, infectious component)
- Considered detailed assessment if:
  o Acknowledgment of drug use
  o Physical signs e.g. track marks, nasal septum atrophy
  o Urine drug screen +ve (Note: emergency drug screen is unlikely to significantly affect impact upon management in the ER).

Approach for engagement
- Accept patient autonomy
- Non-judgemental approach
- Collaborative approach with patient
- Confidentiality
- Proactive discussion on meds and behaviours

Managing Potentially Violent Patient:
- Have a staff & public safety plan!
- Maintain autonomy & dignity of users; intervene early, approach patients with caution, don't startle, avoid provocation, be aware of your own demeanour, use calm language, don't make promises, provide options and choice, remove dangerous objects from your person, know exits, don't turn back on patient, role for distraction, be firm & compassionate, depersonalize issue; avoid confronting, but if necessary maintain distance, avoid corners/connering, explain intention, ask for facts & encourage reasoning, ask for weapons to be put down not handed over, know how to call for help.

Intoxication: Common Presentations – Possible Causes

Unresponsive: hypoglycemics, narcotics, alcohol, cyanide, carbon monoxide, tranquilizers, hydrocarbons, barbiturates

Seizures: hypoglycemics, amphetamines, cocaine, hallucinogens, anticonvulsants, TCAs, PCP, mescaline; benzodiazipine withdrawal especially high dose; alcohol withdrawal tremors/seizures

Hyperthermia: salicylates, Ecstasy, atropine, amphetamine B, phenytoin

Hypothermia: ethanol, narcotics, sedatives/hypnotics, TCAs, barbiturates, carbon monoxide.

If mixed presentation consider possibility of mixed ingestion!

Intoxication Management - [Primary assessment ABCs: airway, breathing, circulation] ±

Intoxication (coma, lethargy, stupor; constipation, N&V; flushing, pruritis; hypotension; moose; resp depression)
- supportive tx; regular assessment of cardio/respiratory safety
- airway protection; correction of hypoxia
- naloxone option: short term duration; balance reversal of resp depression with opioid withdrawal
- (naloxone can be considered if opioid toxicity suspected)
- consider type of opioid for duration of risk & naloxone effect
- consider fentanyl-type fentanyl amining level if overdose cause unknown (fio acametaminophen as possible agent). CAUTION: depending on timing, a “non-toxic” level can become toxic; consult poison center

Supportive tx (agitation, diaphoresis, hyperventilation, mydriasis, psychosis, seizures, ±HR)
- Oral diazepam for agitation & hyperventilation (e.g. cocaine/mix)
- IV diazepam or midazolam short acting if severe agitation/anxiety
- Optional: sedating antipsychotic
- Monitor: hypothermia, hypoxemia, cardiac, electrolytes
- HTN: benzodiazepines; alternatively nitroprusside, NTG
- Pupils: ±- blockers. (generally avoid β-blockers as will result in unopposed α constriction)

Supportive tx (immediate life-threatening complications in opioid depression & hypoglycaemia)
- IV access (fluid management); correct hypoglycaemia with dextrose, with & electrolytes; +thiamine

When to Discharge?
- Consider time from last ingestion.
- Can they walk unaided?

Acute Alcohol Intoxication
- Blood Alcohol Levels (BAL): <50mg/dl: impairment in skills, ↑ talkativeness, relax; 50-100 mg/dl = impaired
- HR: ↑ coordination & reactions, mood/personality change; > 200 mg/dl: amnesia, diplopia, N&V
- BP: ↑ HTN: benzodiazepines; alternatively nitroprusside, NTG
- Temp: ↓ hyperthermia, hypothermia, cardiac, electrolytes
- ↑ Diaphoreis
- ↑ 3, unsteady gait, 4. nystagmus, 5. coordination & reactions, mood/personality change; > 200 mg/dl: amnesia, diplopia, N&V; 300-500 mg/dl: ↑ risk of respiratory depression, coma & death
- DSM-IV: A) recent EIOH, B) clinically significant behavioural/psychological change (e.g. aggression, mood, impaired) C) one or more of [1. slurred speech, 2. coordination 3. unsteady gait, 4. nystagmus, 5. attention/memory, 6. slurred/coma, other.]
- Other effects & associations: Respiratory, G1, alcoholic hepatitis, ↑ risk of injury, ↑ risk of life years lost, ↑ violent crimes.
- Tx: 1) Stabilize patient: airway, resp fx, prevent asx, mechanical ventilation pm, IV access & correction of hypoglycaemia, electrolytes (dextrose, Mg, folate, thiamine, multivitamins); + Sedate patient (droperidol, haloperidol); 3) evaluate for chronic EIOH asx; Ref: Ostacher MJ et al. Impact of substance use disorders on recovery from episodes of depression in bipolar disorder patients: Prospective data from the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD). Am J Psychiatry 2009 Dec 15; [e-pub ahead of print].
- When to let them leave the emerg? Consider holding till they can walk out unassisted.

Management of Cocaine Body Packers:
- Hx: # & type of packets; other asx; GI symptoms: investigations: ECG, CBC/SCR, etc., chest & abdomen x-rays; Management if asymptomatic: admit, oral gastric lavage till all packets passed; 4 hr observations of vitals after packets passed; light/normal diet, IV access, daily evaluation for intoxication/bowel obstruction.

Toxicology: Table Outlining Toxic Syndromes or “toxidromes”, see Goldfrank’s Toxicologic Emergencies

ExTRs (RxFiles - Outlining Substance Abuse)
- If using cocaine/other stimulants then detox is the only option. Rapid detox is not recommended during pregnancy.
- Patients should only be “nodding” (falling asleep on methadone) if the dose is too high, they are a new start, or if they using BZD’s at the same time – maybe consider a tox screen to assess if patient is also using any other drugs
- In Saskatchewan methadone doses goes up by 10mg increments and down by 5mg increments for dose adjustments with some physicians.
- If any other LA morphine (Kadian) in addition to methadone when starting patients is sometime done to prevent acute withdrawal & allow for methadone titration (e.g. a few weeks of dual treatment); controversial.
- IV drug abusers: considerations see reference 53
- Other substances of abuse: volatile inhalants, Listerine mouthwash
- Be weary of illegitimate on-line pharmacies which supply controlled substances without a prescription.

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“it takes more than 2½ minutes to assess a patient for a possible opioid prescription”; a challenge, especially for busy walk-in and minor emergency types of practice.

“it takes only 30 minutes to argue, but only 30 seconds to write a Rx”; reflecting the realties and frustrations of everyday practice.

“It’s OK to say ‘No’”

“it takes only 30 seconds to argue, but only 30 minutes to assess a patient for a possible opioid prescription”.

U.K. Study Ranking - Most harmful drugs: overall, to individual, and to society.


BACKGROUND: Proper assessment of the harms caused by the misuse of drugs can inform policy makers in health, policing, and social care. We aimed to apply multicriteria decision analysis (MCDA) modelling to a range of drug harms in the U.K. METHODS: Members of the Independent Scientific Committee on Drugs, including two invited specialists, met in an 1-day interactive workshop to score 20 drugs on 18 criteria: related to the harms that a drug produces in the individual and seven to the harms to others. Drugs were scored out of 100 points, and the criteria were weighted to indicate their relative importance. FINDINGS: MCDA modelling showed that heroin, crack cocaine, and metamfetamine were the most harmful drugs to individuals (part scores 34, 37, and 32, respectively), whereas alcohol, heroin, and crack cocaine were the most harmful to others (46, 21, and 17, respectively). Overall, alcohol was the most harmful drug (overall harm score 72), with heroin (55) and crack cocaine (54) in second and third places. INTERPRETATION: These findings lend support to previous work assessing drug harms, and show how the improved scoring and weighting approach of MCDA increases the differentiation between the most and least harmful drugs. However, the findings correlate poorly with present U.K. drug classification, which is not based simply on considerations of harm. FUNDING: Centre for Crime and Justice Studies (U.K.).

Guidelines of interest:

Other Links of Interest:

**Salvia leaves** (magic mint, diviner’s sage, sally D, purple sticky)

- Member of mint family, smoked or chewed. Contains salvinorin A, a selective kappa opioid receptor antagonist; does not bind to SHT2A receptors like other hallucinogens. Halucinogen effects rapid & last <30mins. SE: dysphoria, diuresis, chills, headache, insomni, exhaustion, loss of control, impaired coordination & judgement (≠ DANGEROUS!). Sensationalized in SK by Saskatoon media DJ who smoked herb on live broadcast in Dec. 2010.

**Angel’s Trumpet**:

- Alkaloid (atropine, scopolamine) containing flowers & stem. Each flower contains 0.2mg atropine & 0.065mg scopolamine; 3-6 flowers causes hallucinations; 9+ flowers can be life-threatening. Commonly ingested by making a tea. Effects in 1-4hrs; duration 24hrs. SE: mydriasis, dry mouth, tachycardia, fever, erythema, constipation, ↑ thirst, retrograde amnesia & anxiety; arrhythmias & CV collapse / respiratory failure in high doses. (≠ DANGEROUS!)

**“Bath Salts”**

PABS for abuse: are actually designer stimulants (e.g. 4-cyclohexylamino-3,5-dimethoxyphenylpropan-1-ol [MDPV], NRG-1, mephedrone-M-Cat, Meow, 4-MMC, Bubbles, rehatone-methylenedioxymethcathinone, 4A-NDFA, M1, Euphoria, Explosion) being sold in shops & online. Common in UK, now USA via New Orleans, India, China.

Similar effects (THR, paranoia, psychosis) & tx as stimulants. May/11 CDC: MMWR- Emergency Department Visits After Use of a Drug Sold as “Bath Salts” — Michigan, November 13, 2010–March 31, 2011 [http://www.cdc.gov/mmwr/pdf/wk/mm6004a5.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm6004a5.pdf)

**Spice**—(“legal highs”): a range of synthetic drugs; combustable vegetable material sprayed with a variety of chemicals, each designed to alter perception; within tobacco & smoked; effect (heightened awareness; acoustics; imagination; potential for panic & violence; blackouts).

- The most extreme of effects often subside in 15min. Signs: acrid breath smell; higher voice pitch. Withdrawal: cramping, sweating, twitching. Other cautions: Low moods & self harm common. “Not for human comsuption!”

**Dimethoxybenzeneethanamine (2-CB)**—Poppers—miscellaneous other drug considerations/cautions.

- Salbutamol: sometimes used to enhance effect of crack cocaine
- Benzodiazepines: calming effect
- Bupropion: sometimes mixed with & snorted for high
- Quetiapine: may enhance heroin effects & risk


Oxymorphone OPANA ER Abuse

- Thrombotic thrombocytopenic purpura (TTP) strongly associated with injection drug use of OPANA ER.

Buprenorphine/naloxone (ZUBSOLVE), 1.4mg/0.36mg — new SL tab formulation (available in USA): ↑bioavailability & may taste better than Suboxone. (Achieves plasma concentrations = 2/0.5mg and 8/2mg strengths of other Brand tabs.)

Synthetic Cannabinoids — common in herbal incense products

- Full agonists of CB1 & therefore ↑potential for overdose & toxicity
- ↑ association with seeking medical attention. AEs: agitation, altered time perception, anxiety, dysphoria, TBP, lightheadness, hallucinations/psychosis, nausea, paranoia, seizures, tachycardia.
- Marijuana extraction/concentration ⇒ production of very highly concentrated levels (80–90%) called “Shatter”; easily over consumed resulting in overdose / emergency visits

Videos – informational related to teen recreational drug use (for teens, by teens) - Canada

- [Unwasted - 4 videos by teens regarding gambling, alcohol, marijuana, opioids/oxycontin](http://www.unwasted.ca/); or [http://unwasted.ca/the-pressures](http://unwasted.ca/the-pressures) (**★★★★★**)
- [Mixing prescription drugs and alcohol.](http://itdoesntmix.ca/)
- [Your when moment (videos from Nova Scotians)](http://changingtheculture.ns.ca/)

Videos – other

- [Addressing the risk of diversion of Rx drugs; secure storage of medications. Powerful.](http://www.youtube.com/watch?v=sunbJDZe1w)

http://www.youtube.com/watch?v=sunbJDZe1w

Guidelines of interest:
Additional refs for SUBSTANCE ABUSE/ADDICTION: Overview & Treatment Considerations:

A voice from the streets about Spice.


