BVC MCCQE1 Psych Review Part 3/3 (Misc Topics)

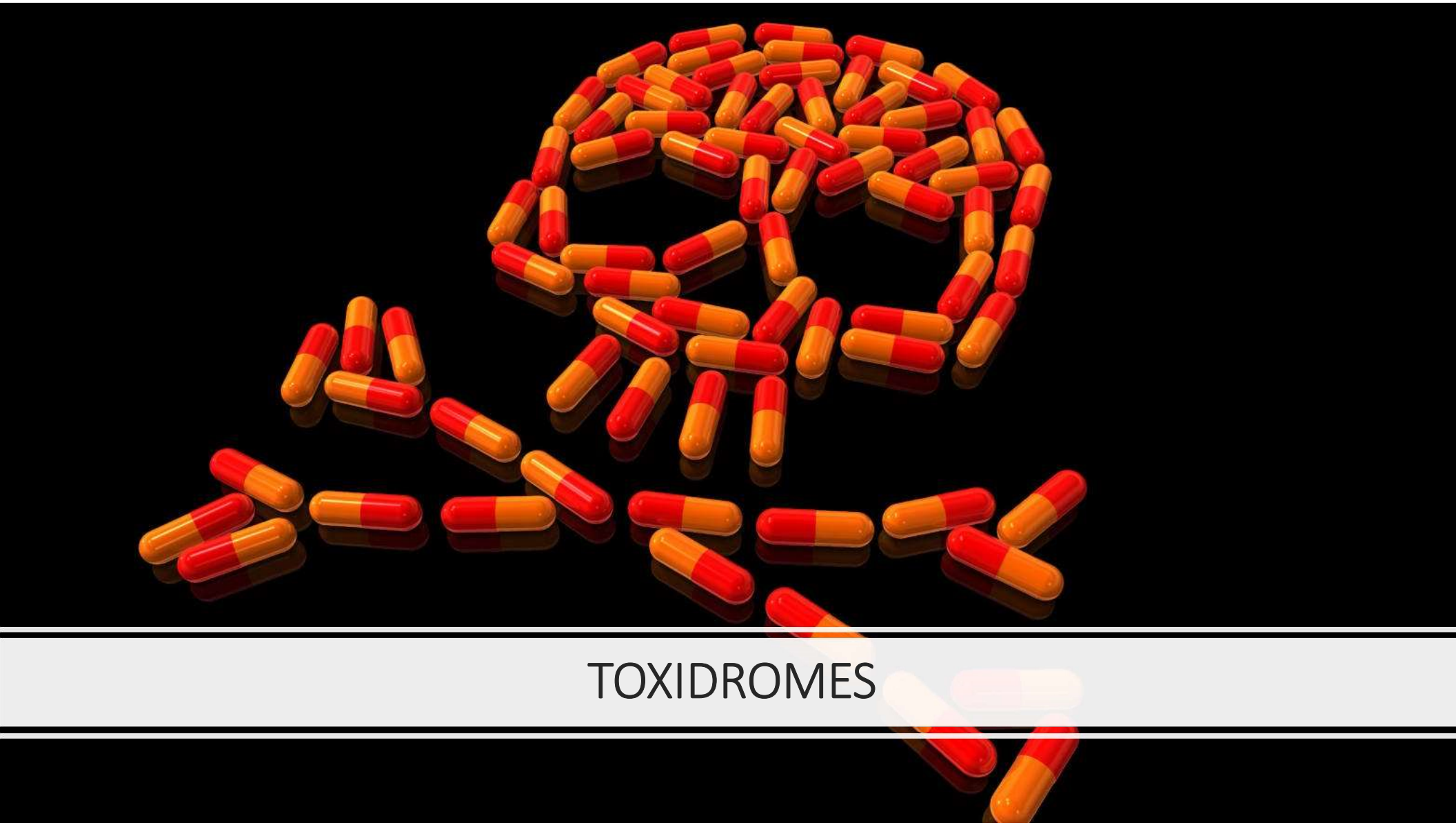
Last updated Apr 21, 2020

EPIDEMIOLOGY

- #1 mental disorder overall = anxiety and related disorders (31%)

  > MDD, ADHD, personality disorders (~5-10%)

  > Schizophrenia, bipolar disorder, autism, anorexia nervosa (1%)
- Suicide rate = 11/100K/yr in Canada/worldwide
- Peripartum statistics
  - Postpartum blues = 50-85% (vs postpartum depression = 16%)
  - Postpartum bipolar relapse = ~80%



TOXIDROMES

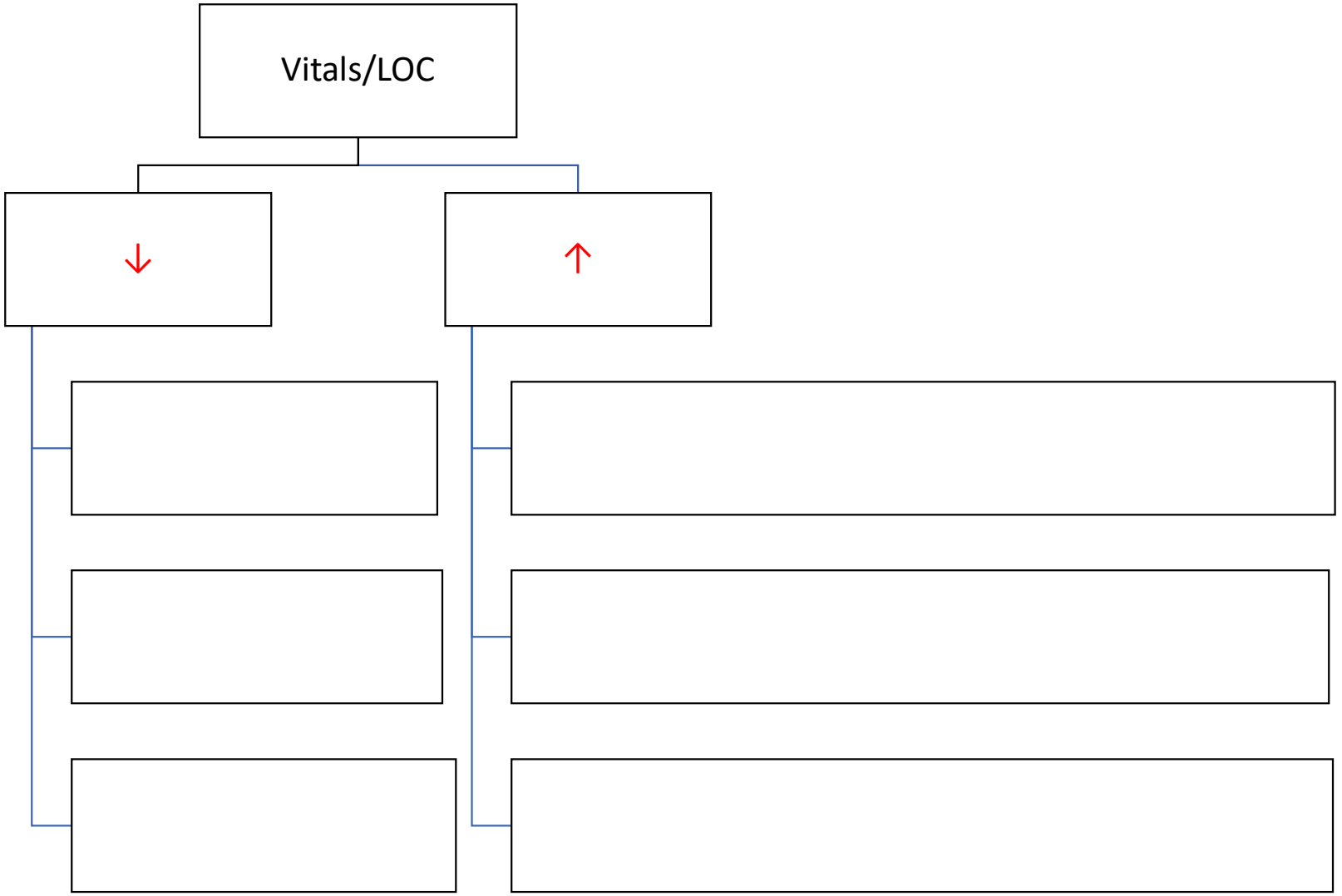
TOXIDROMES

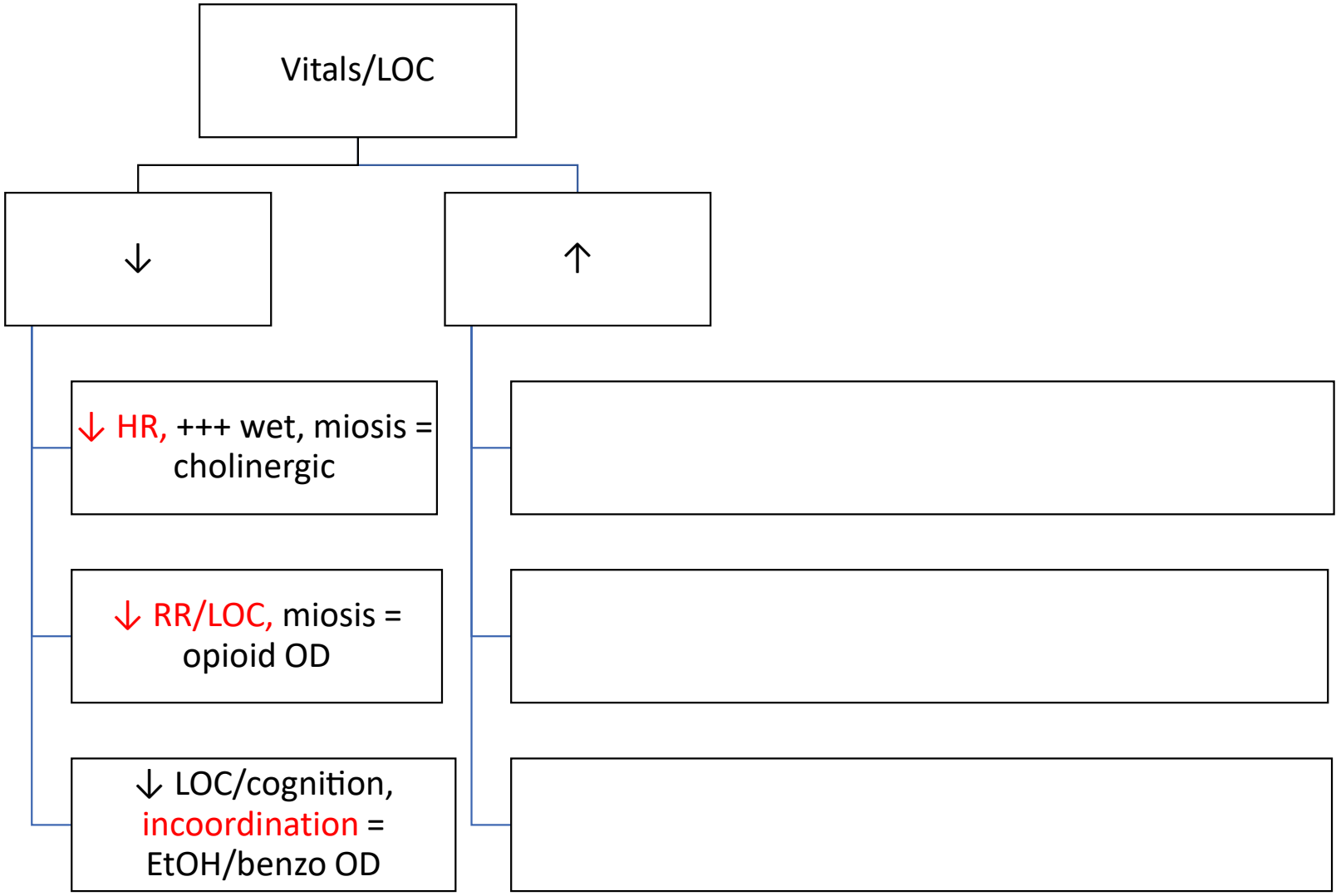
- Generic toxidromes
  - Sympathomimetic
  - Anti/cholinergic
- Psychotropic drugs
  - Neuroleptic malignant syndrome
  - Serotonin syndrome
  - Lithium toxicity
- Recreational drugs
- Other (eg acetaminophen)

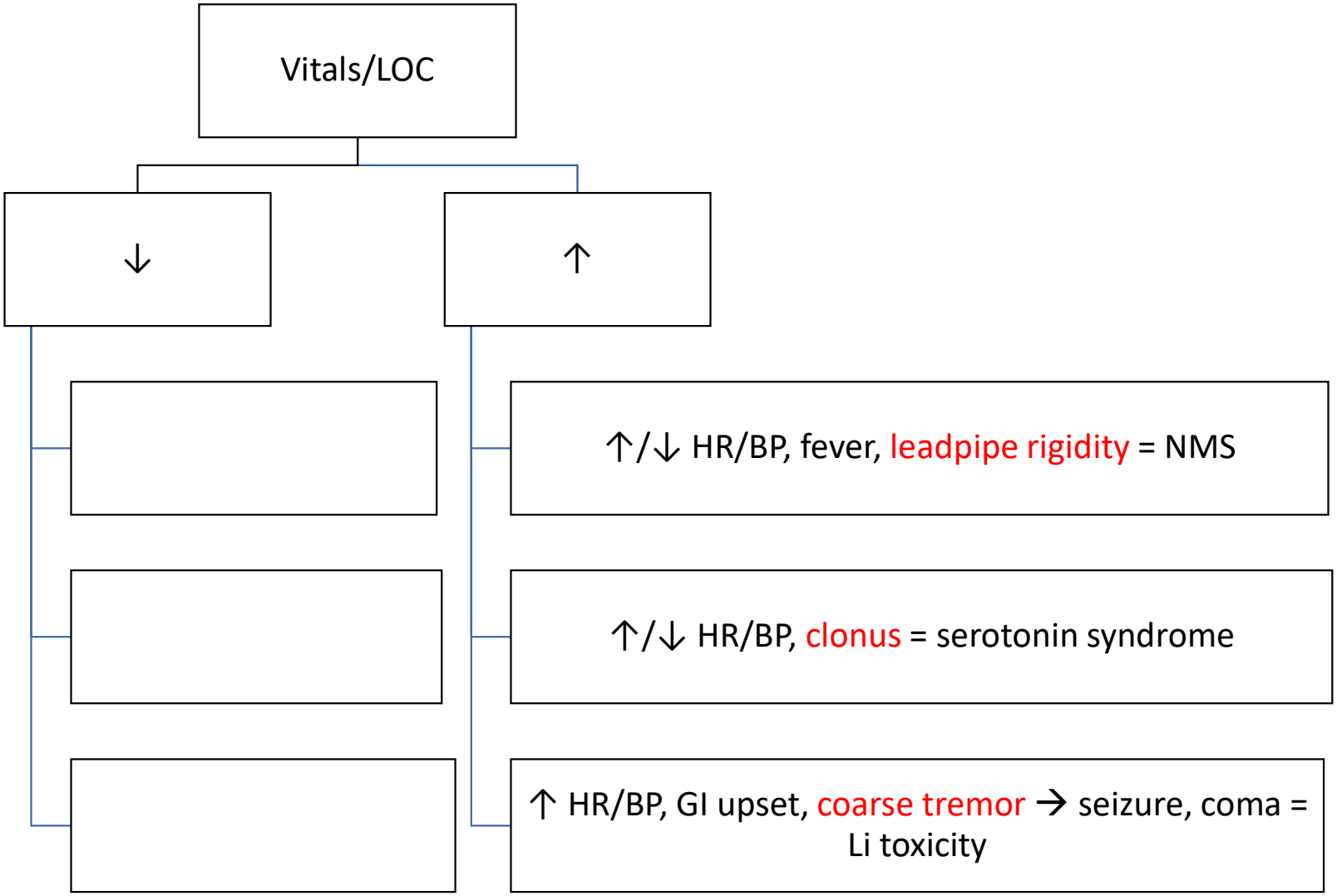
	Intoxication	Withdrawal
Stimulants	X	
CNS Depressants • EtOH/benzo • Opioids	X	X
Hallucinogens (PCP)	X	

TOXIDROMES

- Information to gather for all toxidromes
  - Substance ingested (type, amount, time)
  - Vitals
  - Mental status (LOC, A+Ox3, mood/behavior/perceptual disturbances)
  - Eyes (eg mydriasis vs miosis, redness, lacrimation)
  - Skin (eg dry vs wet, piloerection, excoriation marks)
  - Neuromuscular findings (tone, reflexes, abnormal movements)
  - Other (eg yawning, appetite, hyperacusis)


Vitals/LOC


Vitals/LOC
↓
↑
↓ HR, +++ wet, miosis = cholinergic
↓ RR/LOC, miosis = opioid OD
↓ LOC/cognition, incoordination = EtOH/benzo OD


Vitals/LOC
↓
↑
↑/↓ HR/BP, fever, leadpipe rigidity = NMS
↑/↓ HR/BP, clonus = serotonin syndrome
↑ HR/BP, GI upset, coarse tremor → seizure, coma = Li toxicity

REINFORCE IT!

Which antidepressant class should you avoid in a patient who is at high risk for suicide?

REINFORCE IT!

What is the

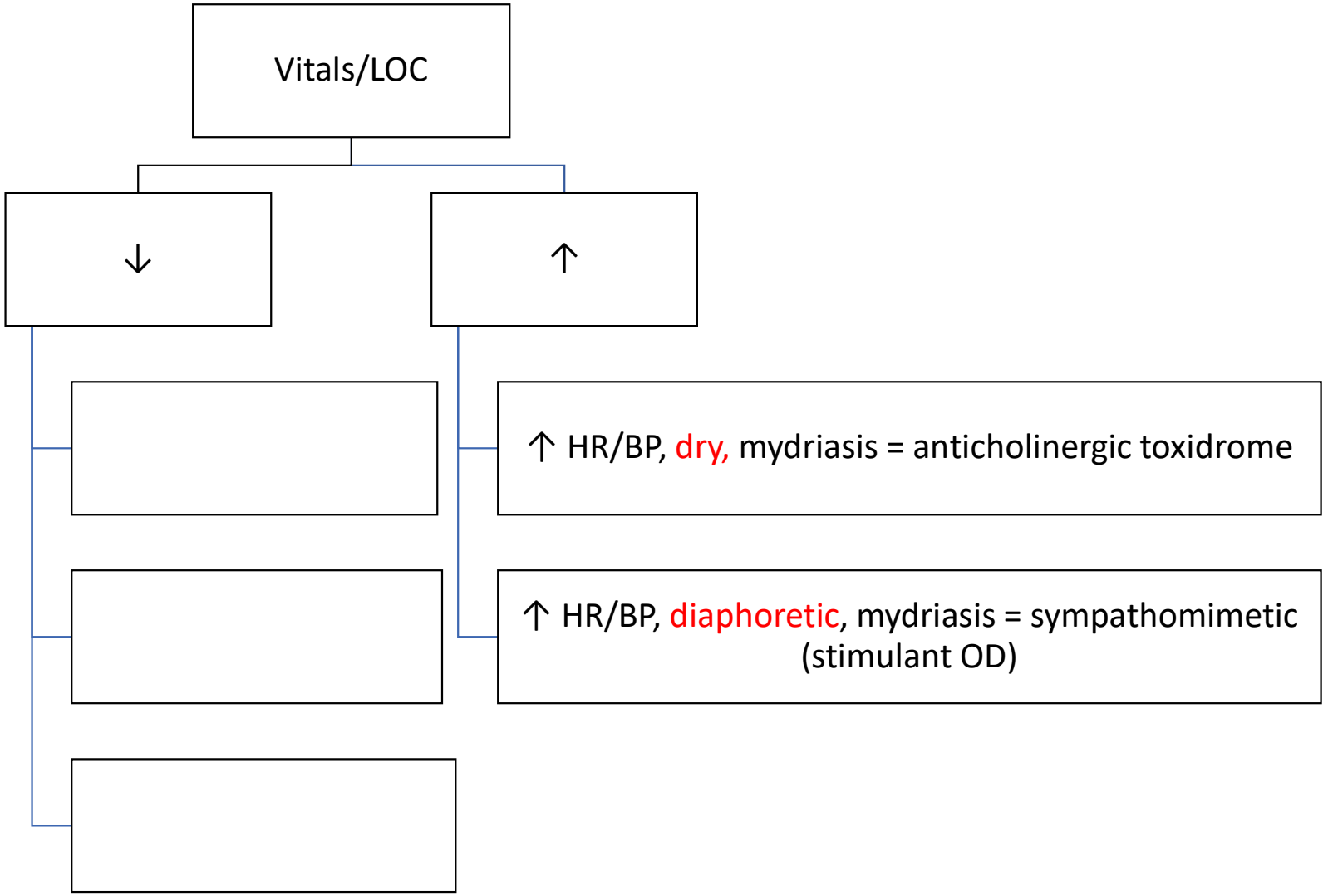
a) Therapeutic serum level for lithium?

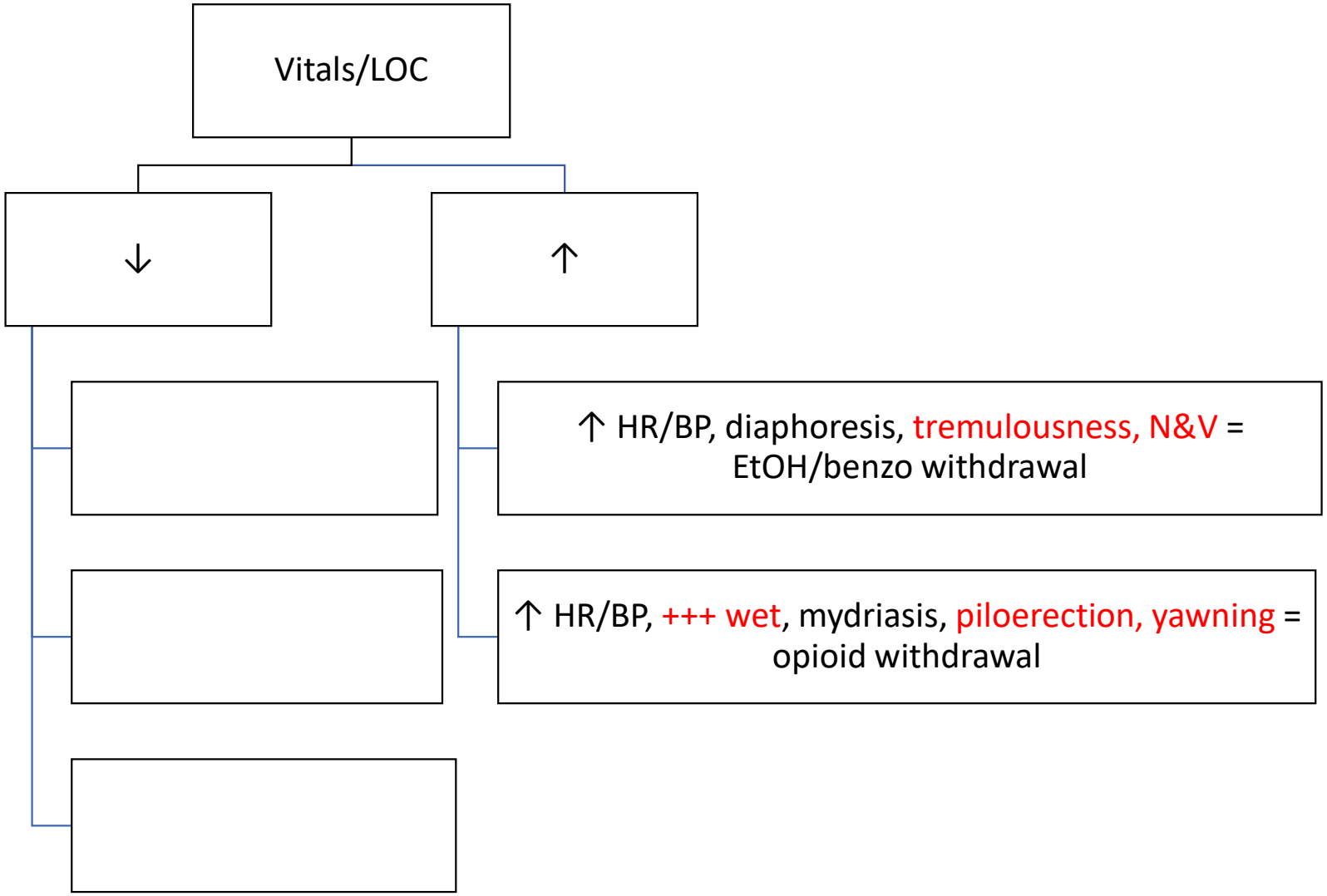
b) Toxic serum level for lithium?

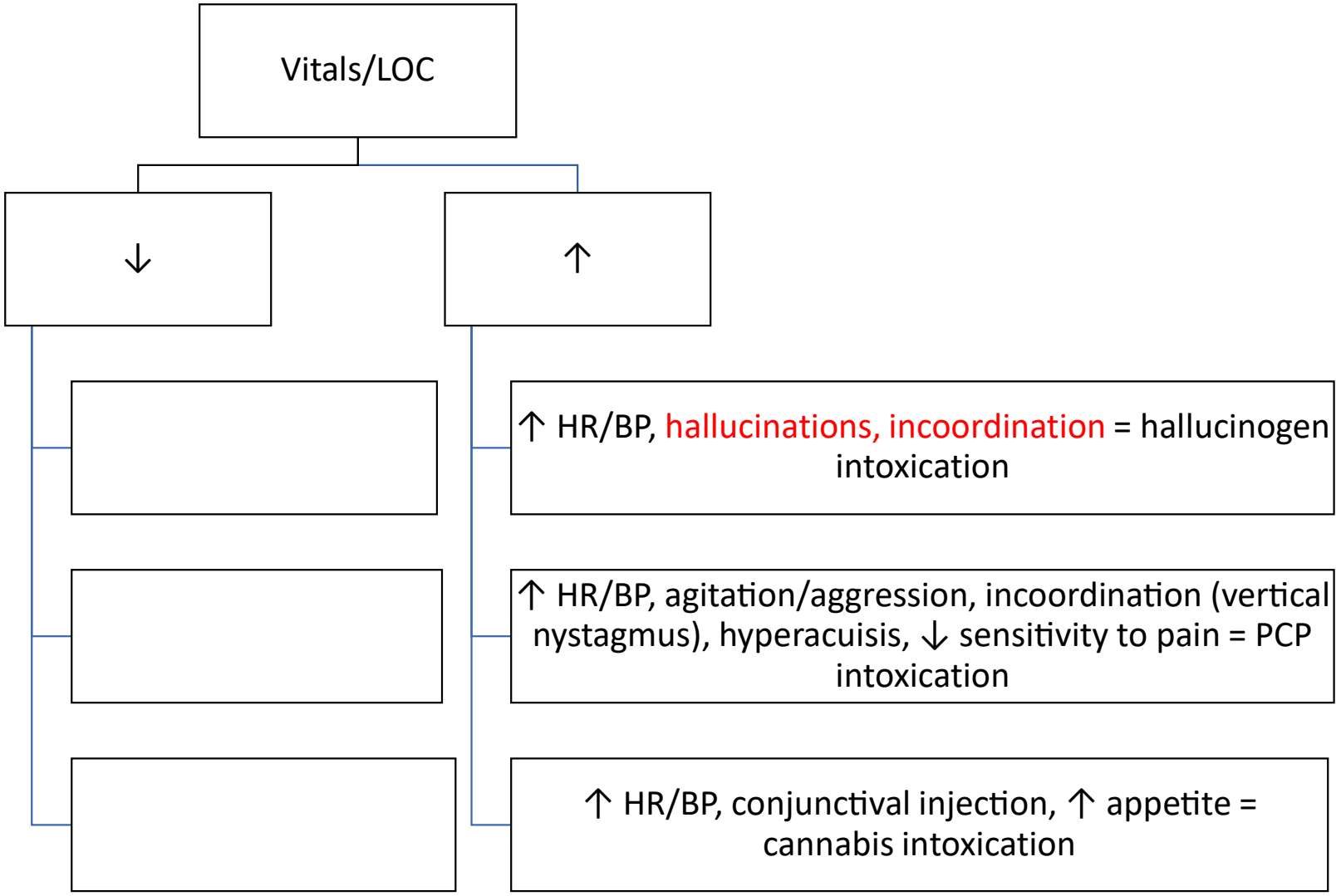
MANAGEMENT OF NMS, SS, LI TOXICITY

Safety/Triage/Legal	Triage • NMS = often requires ICU Safety (ABCs) = supportive care eg • C = IV fluids for all • E = aggressive cooling for NMS

Bio
• D/c offending agent
• +/- medications
	• D/c offending agent for all (antipsychotics, serotonergic agents, lithium)
	• +/- medications
	  • NMS = benzodiazepine, dantrolene, bromocriptine, amantadine
	  • Serotonin syndrome = benzodiazepine, cyproheptadine
	  • Lithium = hemodialysis in severe cases


Vitals/LOC
↓
↑
↑ HR/BP, dry, mydriasis = anticholinergic toxidrome
↑ HR/BP, diaphoretic, mydriasis = sympathomimetic (stimulant OD)


Vitals/LOC
↓
↑
↑ HR/BP, diaphoresis, tremulousness, N&V = EtOH/benzo withdrawal
↑ HR/BP, +++ wet, mydriasis, piloerection, yawning = opioid withdrawal


Vitals/LOC
↓
↑
↑ HR/BP, hallucinations, incoordination = hallucinogen intoxication
↑ HR/BP, agitation/aggression, incoordination (vertical nystagmus), hyperacuisis, ↓ sensitivity to pain = PCP intoxication
↑ HR/BP, conjunctival injection, ↑ appetite = cannabis intoxication

MANAGEMENT OF RECREATIONAL TOXIDROMES

Safety/Triage/Legal	Triage • Medical admission for severe CNS depressant w/d Safety (ABCs) = supportive care for all

Bio
• D/c offending agent
• +/- medications
	• D/c offending agent for all
	• +/- medications
	  • Benzodiazepine = EtOH/benzo withdrawal, stimulant intoxication
	  • Naloxone = antidote for opioid OD
	  • Flumazenil = antidote for benzo OD
	  • (Physostigmine = antidote for anticholinergic toxidrome)

TOXIDROMES

- 25M presents with altered level of consciousness following intentional overdose of his psychiatric medication(s). Temp 39, HR 125, BP 150/100, RR 20, O2 sat 96%. Neuromuscular exam shows complete rigidity of all limbs and normal reflexes.

- What's the most likely diagnosis?

TOXIDROMES

30M with history of polysubstance use disorder presents to ED agitated. He is alert and oriented x 3. Temp 37°C, HR 130, BP 170/100, RR 18, O2 sat 96% on room air. He is diaphoretic with nausea, but thus far denies diarrhea, excessive lacrimation or salivation. Mydriasis noted. No evidence of rigidity, hyperreflexia, or incoordination. However, he appears tremulous. No evidence of piloerection or yawning. He reports last using any substances 18 hours ago. What is the most likely diagnosis? What antidote is indicated?

Cholinergic toxidrome	CNS depressant OD	NMS
Anticholinergic toxidrome	EtOH/benzo withdrawal	Serotonin syndrome
Sympathomimetic (stimulant) OD	Opioid withdrawal	Lithium toxicity
	Hallucinogen toxidrome	

PATHOPHYSIOLOGY

PATHOPHYSIOLOGY

- Biological predisposition for most mental disorders

PATHOPHYSIOLOGY

- Schizophrenia = dopamine hypothesis
  - ↓ dopamine = mesolimbic pathway
  - ↓ dopamine = mesocortical pathway

REINFORCE IT!

1. What are the 4 main dopamine pathways in the brain?
2. How do typical antipsychotics affect these 4 pathways?

PATHOPHYSIOLOGY

- Bipolar disorder = unknown neurotransmitter
- MDD = monoamine hypothesis
  - Monoamine = serotonin, nor/epinephrine, dopamine

REINFORCE IT!

What are the 1st line pharmacological agents for bipolar disorder?

REINFORCE IT!

Which antidepressant class increases

a) Only serotonin?
b) Both serotonin and NE?
c) Both NE and dopamine?
d) All serotonin, norepinephrine, and dopamine?

REINFORCE IT!

What are the 1st line pharmacological agents for MDD?

PATHOPHYSIOLOGY

- Anxiety disorders = ↑ nor/epinephrine (fight/flight response)
- ADHD = ↓ dopamine > norepinephrine in prefrontal cortex
- Alzheimer's dementia = ↓ acetylcholine

REINFORCE IT!

What are the indications for benzodiazepines?

REINFORCE IT!

What is the gold standard 2nd line treatment for OCD?

REINFORCE IT!

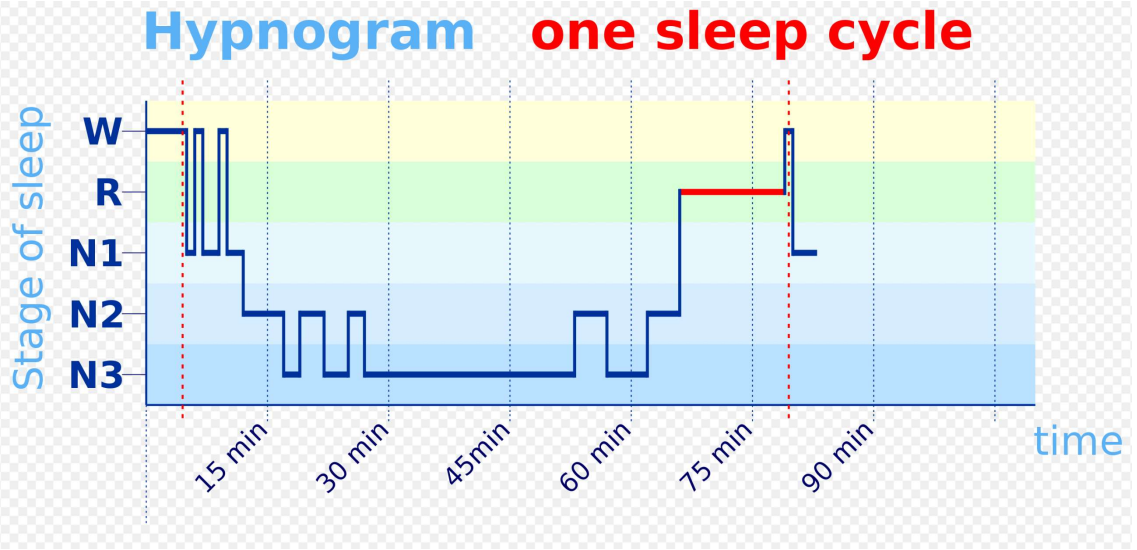
What is the 1st line pharmacological agent for ADHD?

REINFORCE IT!

What type of dementias are acetylcholinesterase inhibitors and NMDA antagonists indicated for?

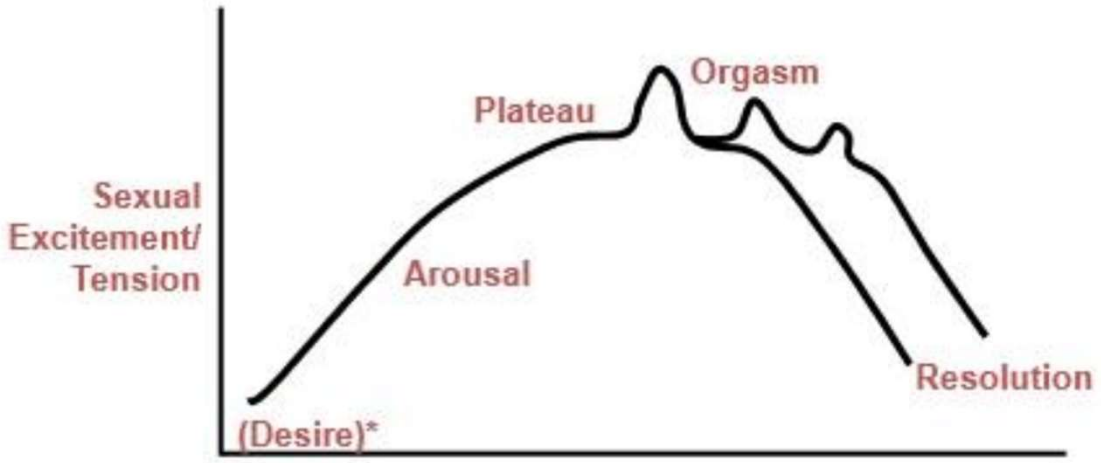
PATHOPHYSIOLOGY

- Sleep cycle
  - NREM sleep
    - Stage N1 = drowsiness
    - Stage N2
    - Stage N3 (old aka Stage 3+4) = deep sleep (aka slow wave sleep)
  - Stage R (old aka REM sleep) = longer with repeated cycles
- Sleep problems = lighter, broken, shorter sleep



PATHOPHYSIOLOGY

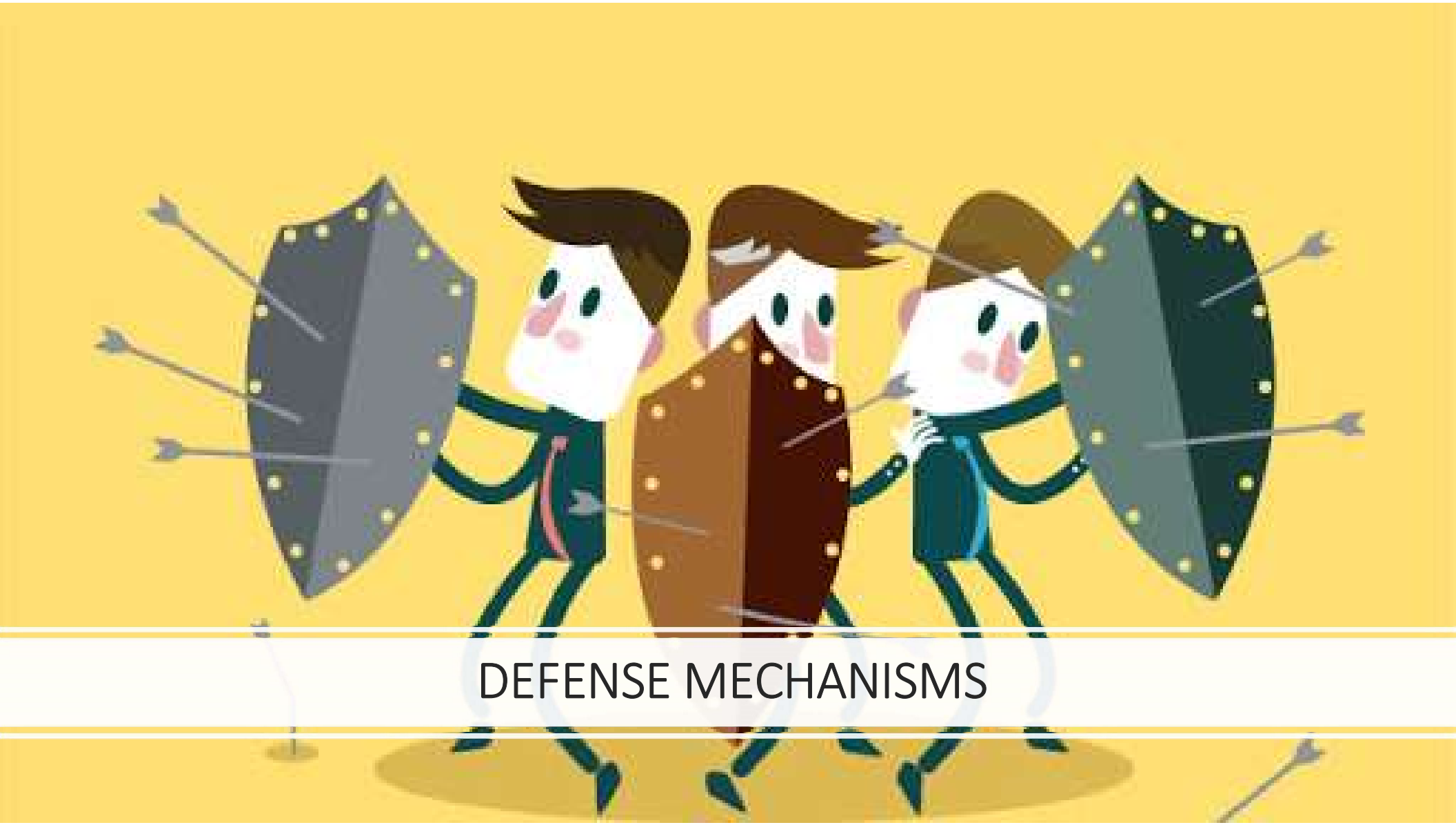
Human Sexual Response Cycle



Masters et al. *Human Sexual Response.* (1966).
*Kaplan HS. *Disorders of Sexual Desire and Other New Concepts and Techniques in Sex Therapy.* (1979).

REINFORCE IT!

What's the difference between paraphilia vs paraphilic disorder?



DEFENSE MECHANISMS

DEFENSE MECHANISMS

5. 30M was fired from work after repeatedly coming into work late. Match the following scenarios to the closest defense mechanism (answers may be used more than once)

- Immature = denial, dissociation, projection, splitting, rationalization
- Mature = altruism, humor, suppression, sublimation

DEFENSE MECHANISMS

✔ Denial ▾ "Everything's fine. I'll just going to go back to work tomorrow as per usual."

✔ Suppressic ▾ "I'm really upset but I'll think about it more after this important meeting I have"

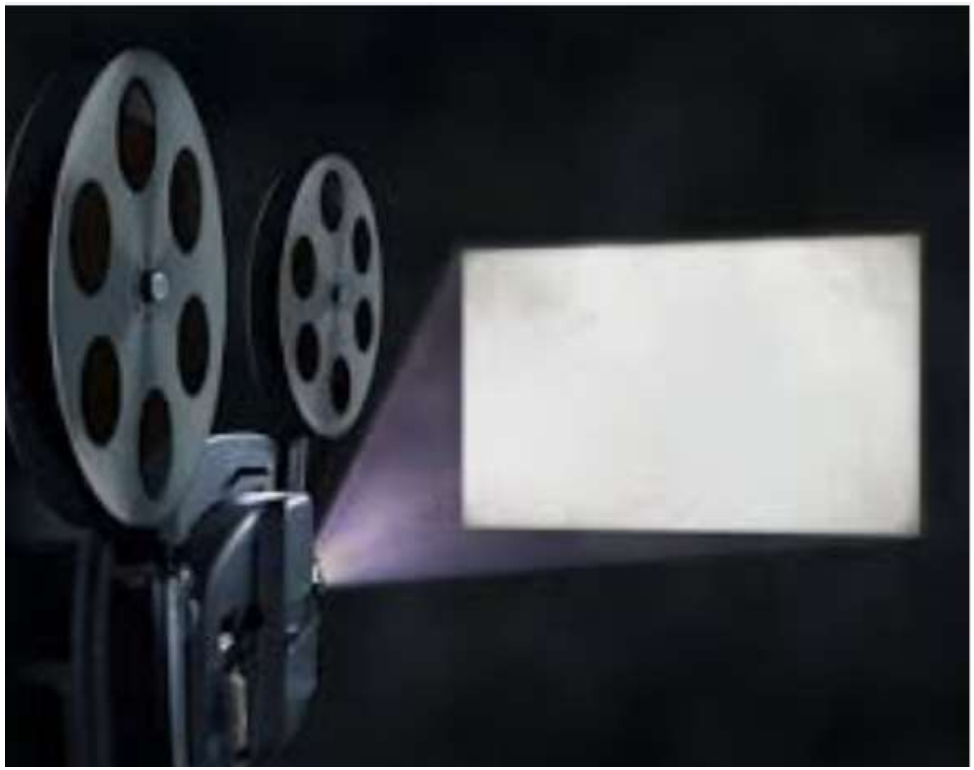
✔ Sublimatio ▾ "I'm really angry about this. I'm going to go to the gym to let steam out."

Common mistakes

- ***Denial vs suppression
- Denial vs projection
- ***Suppression vs sublimation vs splitting
- Rationalization
- ***Dissociation vs sublimation
- Projection vs sublimation

DEFENSE MECHANISMS

✔ Projection ▾ "I think I'm a reasonable employee but it's this boss who thinks I'm a horrible employee."



Common mistakes

- Denial
- Dissociation
- Rationalization
- Splitting

DEFENSE MECHANISMS

✔ Rationaliza ▾ "It's not my fault I'm always late. I've got a busy life, my alarm clock isn't loud enough, and traffic is always a problem."

Common mistakes

- Denial vs rationalization

DEFENSE MECHANISMS

✔ Dissociatio ▾ "I think I spaced out with all this stress. It feels like the world isn't even real anymore."

✔ Splitting ▾ "The boss who fired me is the worst boss on the planet! Otherwise, all my coworkers are amazing to work with."

✔ Altruism ▾ "I'm really upset. I'm going to spend some more time volunteering at the homeless shelter this week."

Common mistakes

- Sublimation vs altruism
- ***Projection vs splitting
- Denial vs dissociation

FORENSICS PSYCHIATRY (MEDICOLEGAL)

EXCEPTIONS TO CONFIDENTIALITY

- Serious and imminent risk of harm to self or others (permission to warn)
  - USA = Tarasoff I/II

    Canada = Smith vs Jones
  - Unsafe to drive (province dependent duty to report)
  - Unsafe colleague (duty to report)

EXCEPTIONS TO CONFIDENTIALITY

- Suspected child abuse (duty to warn in ALL provinces)

  +/- elder abuse (province dependent)

  - No need to break confidentiality for intimate partner violence (unless high risk homicidal ideation)

EXCEPTIONS TO CONFIDENTIALITY

13. What is the physician's obligation regarding confidentiality when it comes to a 16 yo F having sex with her 17 yo basketball coach?

14. What is the physician's obligation regarding confidentiality when it comes to a 14 yo having sex with a 18 yo (in a non-authoritative position)?

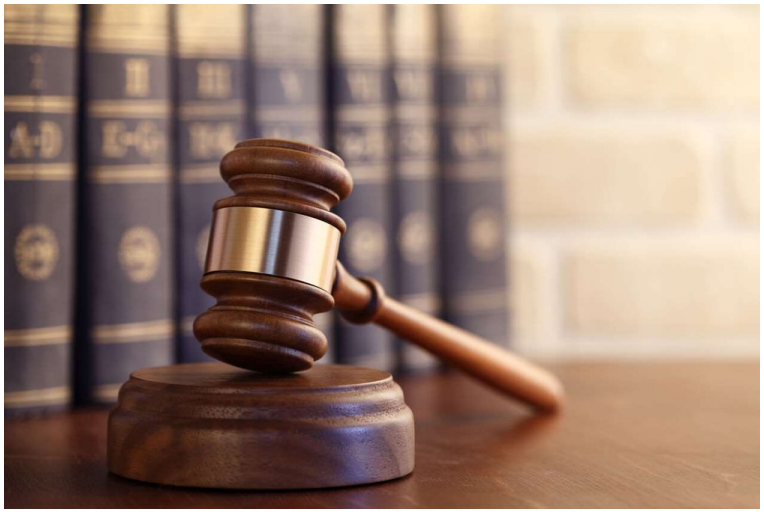
Legal age to consent to sexual activity

- 12-13 yo = < 2 yrs older
- 14-15 yo = < 5 yrs older
- 16+ yo = any age
- EXCEPT if to person of authority

EXCEPTIONS TO CONFIDENTIALITY

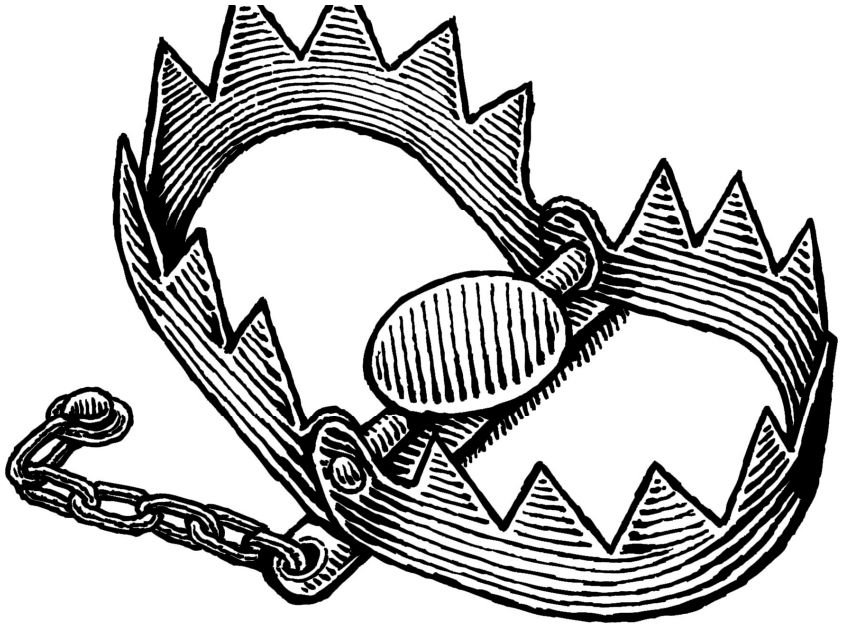
- Court order / search warrant (duty to report)

  ≠ subpoena (“summons to witness”)



INFORMED CONSENT

- Proper information (“DTRAP”)
  - Diagnosis being treated
  - Treatment, nature of
  - Risks and benefits
  - Alternative treatments
  - Prognosis w/ and w/out treatment
- No coercion
- Have capacity



18. You are a family physician conducting a family meeting for a 30 year old patient with major depressive disorder (MDD). You explain to the patient and family that MDD is a mood disorder that can cause significant depressive symptoms such as low mood, decreased interest, low self-esteem, neurovegetative shift, and suicidal thinking. You recommend starting sertraline, which you explain is an antidepressant that is generally well-tolerated but can cause minor side effects such as headache, GI upset, insomnia and in rare cases other serious side effects such as flipping into mania. You explain that physical symptoms of depression are likely to improve before cognitive symptoms of depression, and can take several weeks before improvement is noticed. Based on this information, does the patient have full informed consent?

0 / 1 point

Your Answer: ✖ **Incorrect**

- Yes
- ✔ No, because alternative options for treatment were not provided to the patient
- No, because the pathophysiology of MDD was not explained to the patient
- ✖ No, because the black box warning of antidepressants was not described yet

CAPACITY (≠ COMPETENCE)

- Patient must possess the ability to
  - Understand
  - Appreciate
  - Communicate a preference
  - Demonstrate reasoning keeping with logic
- NOT determined by diagnosis alone (eg Alzheimer's)

Alternate Decision Maker

	Determined by Patient (via EPOA or PD)	Determined by Government (via Adult Guardianship and Trusteeship Act)
About Non-Financial Matters	Agent	Guardian
About Financial Matters	Power of Attorney	Trustee

MEDICAL NEGLIGENCE

- 4 D's of medical negligence
  - Duty of care
  - Deviation from standard of care
  - Damage to patient
  - Direct correlation between deviation and damage

MEDICAL NEGLIGENCE

- You are a family physician covering for your colleague's outpatient clinic for the day. Your colleague's patient presents to you requesting a refill for his OXYCODONE FOR INSOMNIA, which you comply with and give the patient a 30 day prescription for. The patient requires resuscitation with naloxone for respiratory depression later that night. Will you likely be found guilty of medical negligence?

INSOMNIA MANAGEMENT

- 1st line = non-pharmacological treatments
  - Gold standard = CBT for insomnia
- 2nd line = pharmacological adjuncts
  - Labelled indications = short-term benzodiazepines & Z-drugs