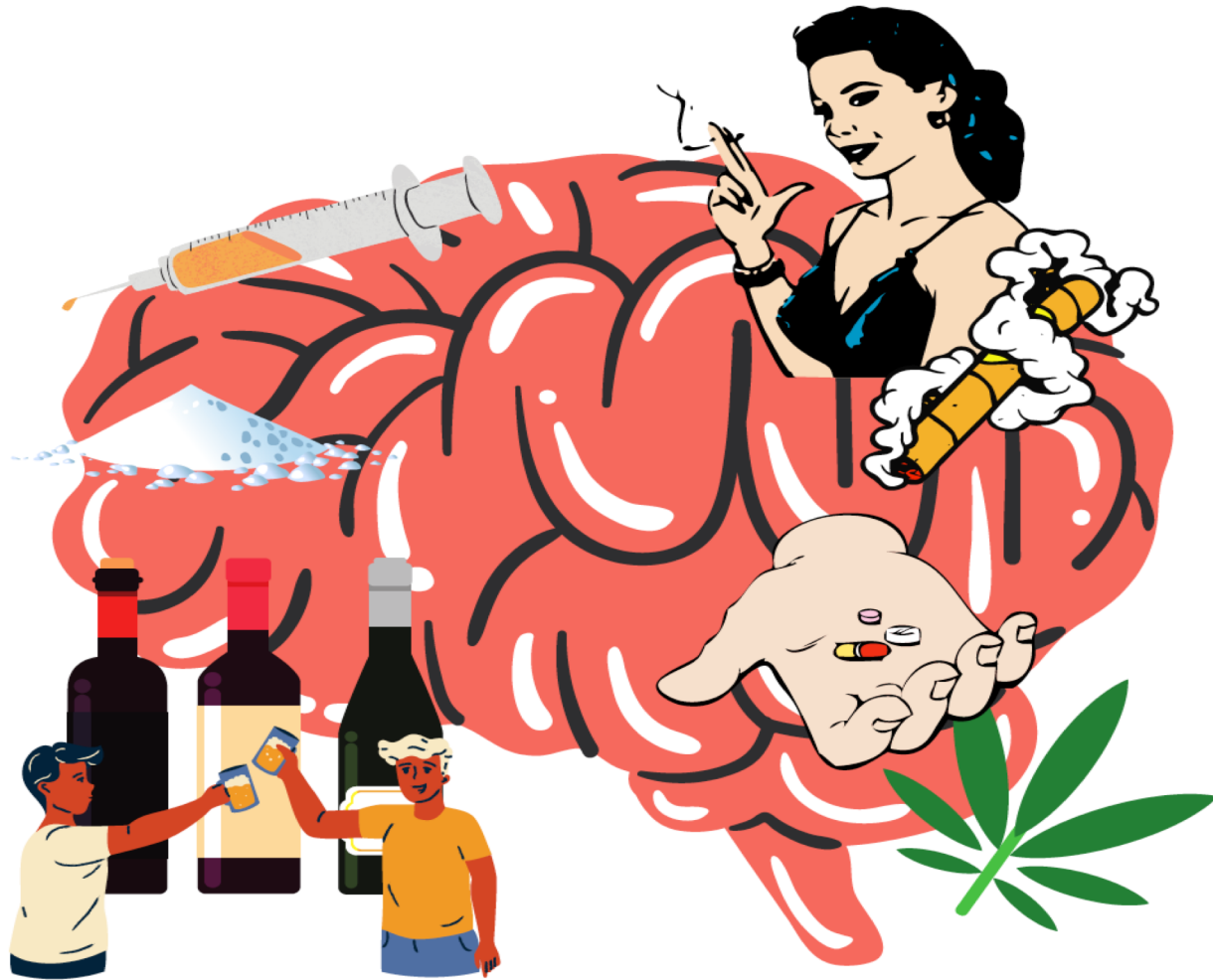


Substance Use Disorders





ภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น

บทเรียนและเอกสารชุดนี้ เป็นลิขสิทธิ์ของภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น จัดทำขึ้นเพื่อการเรียนการสอน หลักสูตรวิทยาศาสตร์บัณฑิต รหัสวิชา **370419 Psychiatry for Physical Therapy** สำหรับนักศึกษากายภาพบำบัด ชั้นปีที่ 3 คณะเทคนิคการแพทย์ มหาวิทยาลัยขอนแก่นเท่านั้น ภาควิชาฯ ขอสงวนสิทธิ์ในการใช้ข้อมูลใด ๆ ใน บทเรียนหรือเอกสาร ไม่ว่าจะบางส่วนหรือทั้งหมด โดยมีให้ผู้ใดเผยแพร่ อ้างอิง ลอกเลียน ทำซ้ำหรือแก้ไขด้วยวิธีใด ๆ เว้นแต่ได้รับอนุญาตจากภาควิชาฯ หากฝ่าฝืน จะถูกดำเนินการลงโทษทางวิชาการและทางวินัย รวมถึงดำเนินคดี ทางกฎหมาย

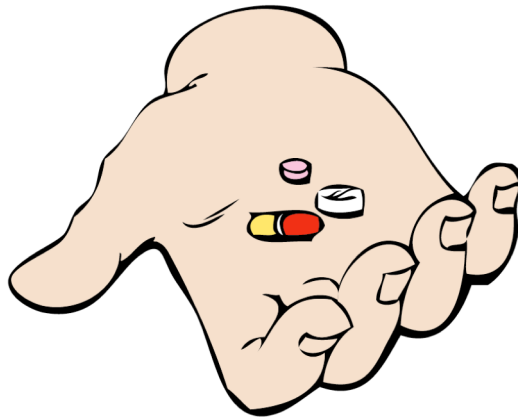
Contents

- Substance use disorders
- Common substances
- Physical therapy and substance use disorders

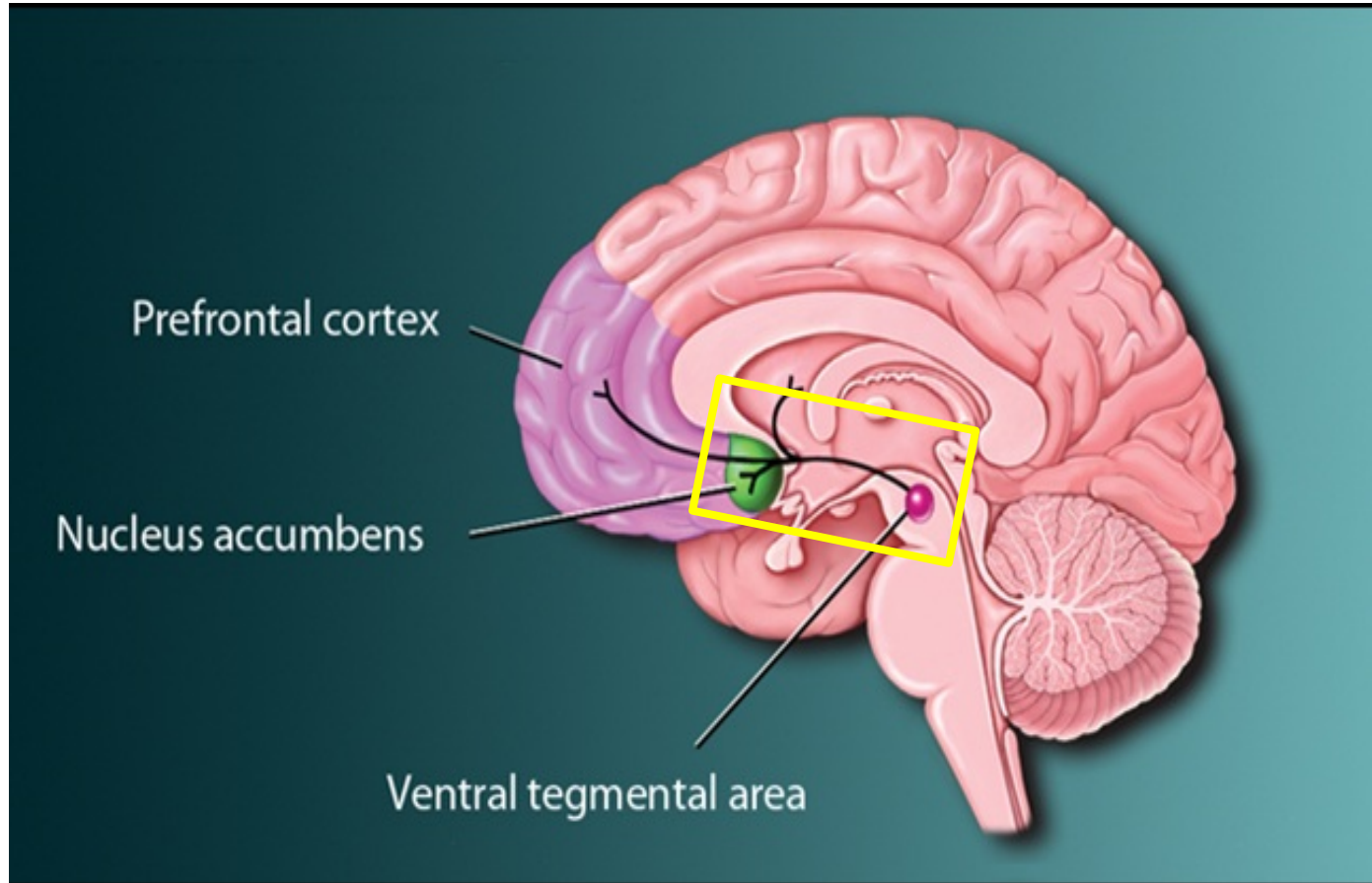


ยาเสพติดให้โทษ

องค์การอนามัยโลก (World Health Organization: WHO) ให้ความหมายว่า ยาเสพติดหมายถึงสิ่งที่ไม่ใช่ยาเข้าไปแล้วจะเกิดความต้องการทั้งทางร่างกายและจิตใจต่อไปโดยไม่สามารถหยุดเสพได้ และจะต้องเพิ่มปริมาณมากขึ้นเรื่อย ๆ จนในที่สุด จะทำให้เกิดโรคภัยไข้เจ็บต่อร่างกายและจิตใจขึ้น



Reward Pathway



- Dopamine
- Mesolimbic pathway

Substance Use Disorders

- A problematic pattern of substance use
- Clinically significant impairment in function
- ≥ 2 in 12 month-period

1. Substance is taken more than was intended (larger amounts/longer period)
2. Unsuccessful to cut down or control substance use
3. Great deal of time is spent to obtain substance
4. Craving for substance
5. Failure to fulfill major role obligations (work, school, home)
6. Recurrent social or interpersonal problems

Substance Use Disorders

- A problematic pattern of substance use
- Clinically significant impairment
- ≥ 2 in 12 month-period

7. Reduced important activities

8. Physically hazardous

9. Substance use is continued despite having a problem that is likely to have been caused or exacerbated by substance

10. Tolerance

11. Withdrawal

Physical dependence






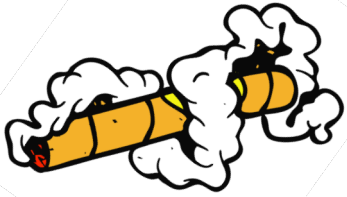
Risk Factors

Biological	Psychological	Social
Genetics	Education	Availability of substances
Age	Occupation	Peer pressure
Race	Culture and religious belief	Media
Gender		Family and community
Route of administration		Legal ramification

Urine Substance Test

- Cocaine & amphetamine derivative 2-3 days
- Opioids., heroine 2 days
- Cannabis 3-10 days, chronic use 21 days
- Benzodiazepines 3 days
- Barbiturate 2-7 days
- PCP, ketamine 8 days

Common Substances

Alcohol	Amphetamine	Cocaine
		
Opioid	Cannabis	Tobacco
		

Alcohol

- CNS depressant
- Short term use: increasing fluidity of the membranes of neurons
- Long term use: membranes become rigid or stiff
- Multiple neurotransmitter system involvement
 - Enhance: GABA type A, Nicotinic acetylcholine, 5HT₃
 - Inhibit: Glutamate rp., VGCC



Clinical Features

Alcohol Intoxication :

Slurred speech, incoordination, unsteady gait, nystagmus, impairment in attention, memory stupor or coma

Alcohol Withdrawal :

Autonomic hyperactivity, hand tremor, insomnia, nausea or vomiting, transient visual/tactile/auditory hallucinations, psychomotor agitation, anxiety , grand mal seizures

Alcohol Withdrawal delirium:

Disorientation , Confusion, Impair attention, Agitation, Visual/Tactile/Auditory hallucinations



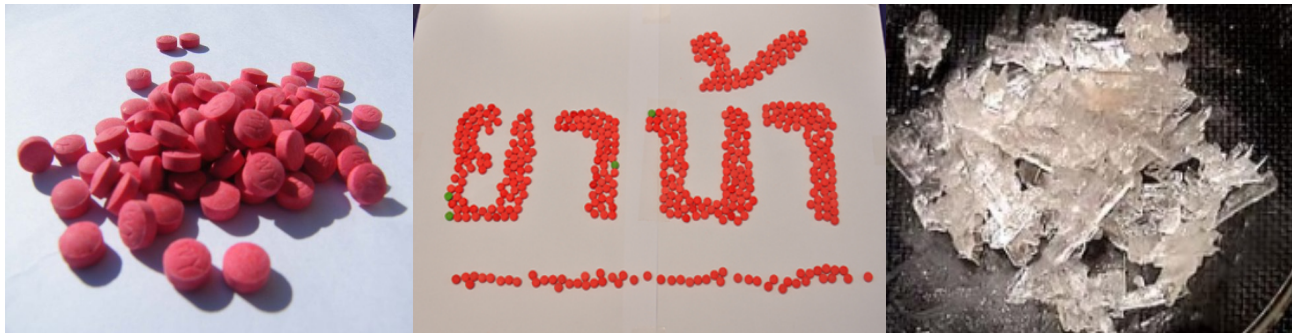
Consequences

- Skeletal myopathy
- Reduced muscle strength, muscle mass and function
- Peripheral neuropathy ex. Saturday night palsy
- Physiological and cognitive changes



Amphetamines

- Ice, chalk, meth, speed, fire, crystal, and glass
- Psychostimulant
- Releasing catecholamines (Dopamine) from presynaptic neurons



Clinical Features

Amphetamine Intoxication:

Tachycardia or bradycardia, pupillary dilation, elevated or lowered blood pressure, perspiration or chills, nausea or vomiting, evidence of weight loss, psychomotor agitation or retardation, muscular weakness, respiratory depression, chest pain or cardiac arrhythmias, confusion, seizures, dyskinesias, dystonias, coma

Amphetamine Withdrawal:

Fatigue ,vivid unpleasant dreams ,insomnia or hypersomnia, increased appetite ,psychomotor retardation



Cocaine

- Erythroxylon coca bush
- Nose candy, snow, coke, c, blow, toot
- Psychostimulant
- Centrally: blocks the re-uptake of catecholamines and potentiates particularly dopamine (Euphoria)
- Locally: blocks the initiation and propagation of nerve impulses along an axon by interference with sodium permeability during depolarization



Clinical Features

Cocaine Intoxication:

Tachycardia or bradycardia, Mydriasis, Blood pressure change, Perspiration, Nausea or vomiting, Weight loss, Psychomotor agitation or retardation, muscle weakness, respiratory depression, chest pain/dysrhythmia, disorientation, seizures, dyskinesias, dystonias, or coma

Cocaine Withdrawal:

Fatigue, vivid unpleasant dreams, insomnia or hypersomnia, increased appetite, psychomotor agitation or retardation



Opioid

- Heroin, Morphine
- Injected, snorted, sniffed, or smoked
- Rapidly acting
- Concurrent treatment or use of other CNS depressant drugs :risk of respiratory depression, hypotension, coma, and profound sedation
- Agonists at μ , κ , delta Opioid receptors \rightarrow effect on DA at VTA



Clinical Features

Opioid Intoxication:

Pupillary constriction, drowsiness or coma, slurred speech, impairment in attention or memory



Opioid Withdrawal :

Dysphoric mood, nausea or vomiting, muscle aches, lacrimation or rhinorrhea, pupillary dilation, piloerection, sweating ,diarrhea, yawning, fever, insomnia



Cannabis

- Cannabinoids
- Delta-9-tetrahydrocannabinol (THC) is the primary active chemical
- Marijuana, hash, hashoil

- THC binds to Cannabinoid receptors (basal ganglia, hippocampus, cerebellum) → many change in neuronal function



Clinical Features

- Behavioral effects :
 - Euphoria, anxiety, sensation of slowed time, impaired judgement, social withdrawal
- Physical effects
 - Conjunctival injection, increased appetite, dry mouth, tachycardia, impaired motor coordination
- Withdrawal : No specific symptom



Tobacco

- Nicotine
- Agonist at nicotinic acetylcholine receptors
- Activate dopaminergic reward system
- Increase concentrations of circulating NE, E



Clinical Features

- Intoxication : None
- Withdrawal : Dysphoria, irritable, restless, insomnia, anxiety, anger, increased appetite, bradycardia, poor concentration



Consequences

- Increased cardiovascular risks
- Decreased levels of language processing, hand-eye coordination, executive functioning , memory and learning
- Increased muscle fatigability and poor balance
- Increased fracture risk by depleting estrogen



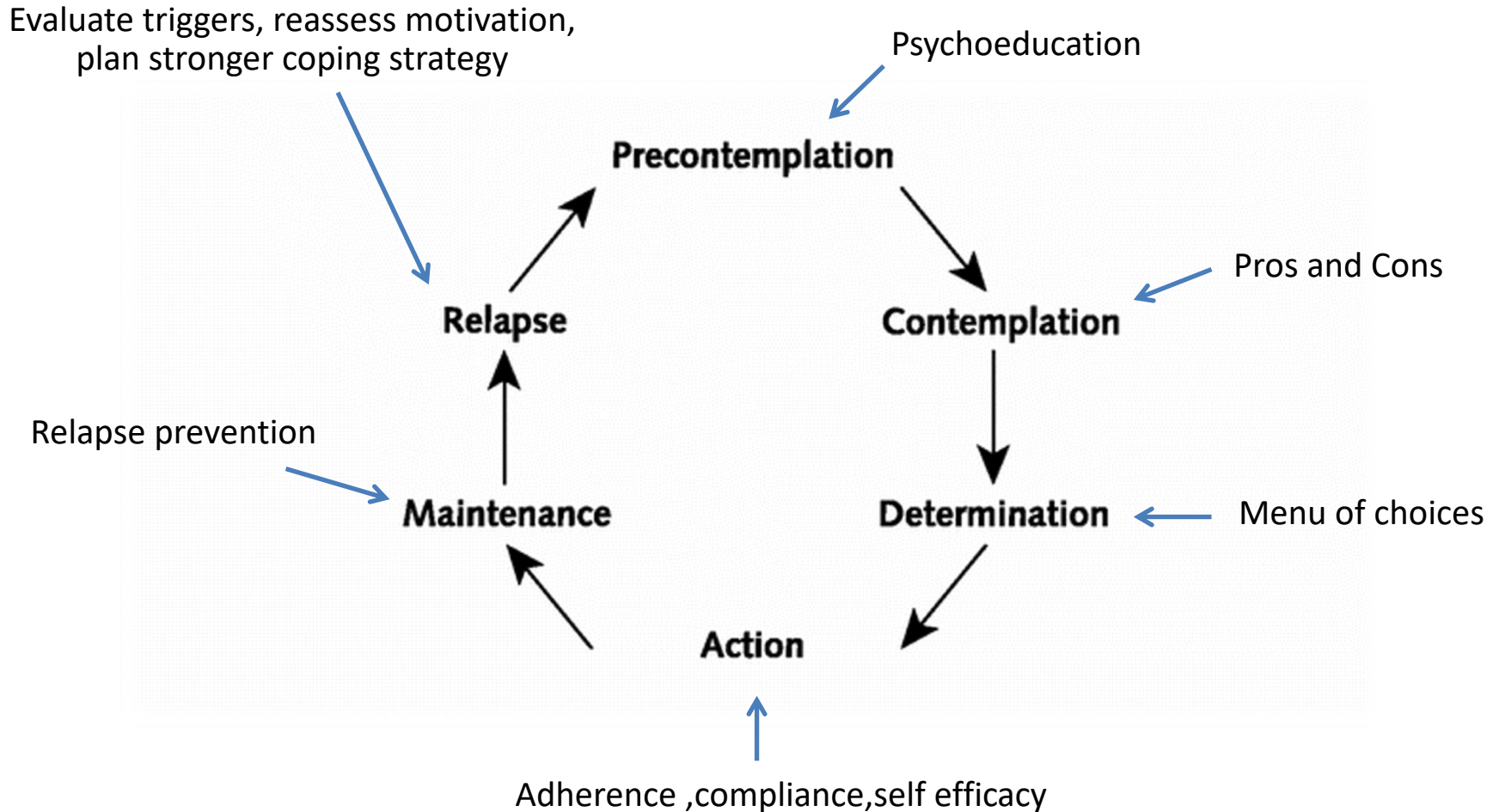
Management

- Identification
- Detoxification
 - Depend on the substances
 - Supportive treatment
 - Benzodiazepine
 - Antipsychotic drugs
 - Nutritional supplement
- Rehabilitation
 - Motivation
 - Proper coping
 - Comorbid disorder treatment

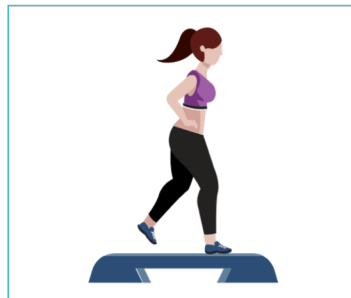
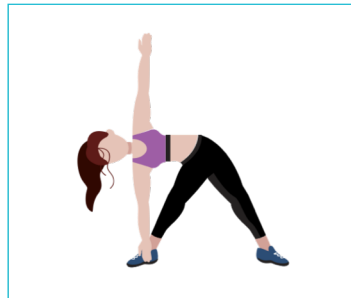
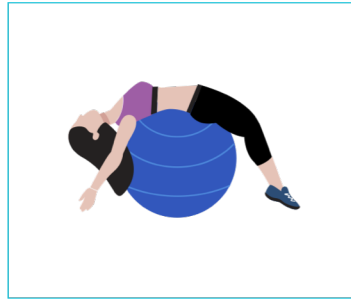


Stage of Change

Prochaska & DiClemente 1992



PT and SUD



Potential Mechanisms

- Neurochemical alterations
- Reduction of acute craving
- Endogenous reward
- Mood regulation
- Reduction of anxious and depressive symptoms
- Stress reactivity
- Group activity and social support
- Coping
- Maladaptive cognitions and self-efficacy

Physical Therapy Treatment

- Helpful in patients with chronic problems of gait and balance/ deconditioned due to inactivity during the period of addiction and early recovery



Physical Therapy Treatment

- Exercises help muscles gain mass
- Electrical stimulation and strengthening exercises treat Neuropraxia
- Comprehensive PT for alcoholic neuropathy
 - Gait and balance training
 - ROM exercise
 - Stretching
 - Strengthening
- Co-ordination exercise
- Pain: Gentle-paced exercise program, hot/cold packs, transcutaneous electrical nerve stimulation

Conclusion

- Substance Use disorder
- Common substances
- Physical therapy and substance use disorder

