

Learning unit: Substance abuse, addiction and its treatment

Important terms

neuronal reward pathways

repeated administration

sensitization

desensitization

tolerance

physical dependence

psychological dependence

craving

neuroplasticity

Withdrawal symptoms

overdosing

substitution therapy

- opioid dependence
 - substitution therapy
 - methadone
 - buprenorphine
 - therapy blocking response to opioids
 - naltrexone
 - withdrawal syndrome therapy
 - clonidine
 - beta-blockers
 - benzodiazepines
 - clomethiazole
- alcohol dependence
 - aversive therapy
 - disulfiram
 - anticraving therapy
 - acamprosate
 - therapy blocking response to alcohol
 - naltrexone
 - nalmefene
 - withdrawal syndrome therapy
 - clonidine
 - beta-blockers
 - benzodiazepines

- clomethiazole
- nicotine dependence
 - substitution therapy
 - nicotine
 - varenicline
 - anticraving therapy
 - bupropion
 - clonidine
- hypnosedative dependence
 - symptomatic therapy
- psychostimulant dependence
 - symptomatic therapy

Learning outcomes

Student knows influence of repeated administration on effect of medical substances.

Student explains terms: tolerance, tachyphylaxis, up-regulation, down-regulation, internalization of receptors.

Student knows mechanisms leading to development of dependency on medical substances.

Student knows neuronal circuits of reward system.

Student knows most frequently abused substances and can suggest therapy of their intoxication and cessation.

Recommended study materials

Rang & Dale's Pharmacology 9th edition, 2020, chapter 50, pp.642-647.

Study materials of the course aVLFA0822c and aVLFA0822p.

Exam questions

Special pharmacology:

60. Drugs causing addiction and substances used for treatment of addiction

“Essential” drugs: 70. methadone, 12. buprenorphine