

Pharmacology

Local and General Anesthetics

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Connecting the Dots

- Last week
- This week



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The RDH and Anesthetics

Application in the "real world"

- RDH use
- Dental hygiene patient
- Pain relief
- Sedation and effects on patients
- To do a good job, understand it
- Summer 2018



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Lesson Objectives

Upon completion of this lesson, the student should be able to:

- Define the mechanisms of action, pharmacokinetics, pharmacodynamics, and adverse reactions of local anesthetics.
- Discuss the use of local anesthetics in dentistry, including how it works, the pharmacokinetics, adverse reactions, and contraindications.
- Compare and contrast the routes of administration and the means of absorption and elimination of dental anesthetics.
- Develop a treatment plan for pain control based on patient needs and medical history.
- Perform a comprehensive assessment of patient safety and effectiveness of dental hygiene services.

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Local Anesthesia

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Local Anesthetics

History

- Cocaine
- Procaine
- Chlorbutol
- Mepivacaine
- The search continues
- Lidocaine



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Local Anesthetics

Chemistry

- Vasoconstrictors
- Local anesthetics are classified into two main groups:
 - Amides
 - Esters
- Intermediate ester or amide hydrolysis
- Vasoconstrictors are used to reduce bleeding during procedures

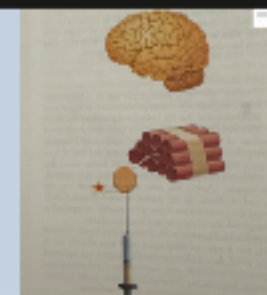
Amide	Ester
Articaine	Chlorbutol
Proparacaine	Procaine
Prilocaine	Articaine
Lidocaine	Articaine
Bupivacaine	Articaine
Ropivacaine	Articaine
Prilocaine	Articaine
Articaine	Articaine

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Local Anesthetics

Mechanism of Action

- Blockade of voltage-gated sodium channels (blocks conduction of nerve impulses)
- Inhibits nerve conduction, preventing the nerve from sending signals (blocks conduction)
- Decrease rate of depolarization of nerve membrane (blocks conduction)



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