

Local anesthetic cartridges can contain two drugs for which we must be concerned about maximum dose:  
*local anesthetic* and *vasoconstrictor*.

1. Name 5 amide-type local anesthetics currently available in the United States. (answer: see class notes Lecture 3)
2. Maximum doses for local anesthetics have been established through animal research studies and are printed on the package insert supplied with every box of the drug. What are the absolute maximum doses (per appointment) for each of the 5 local anesthetics named in question #1? (answer: see class notes lecture 3)
3. What are the maximum doses in milligrams per pound (per appointment) for each of the 5 local anesthetics in question #1? (answer: see class notes lecture 3)
4. Maximum doses for vasoconstrictors have been established by what agency (s)? (answer: *Local Anesthesia* pg. 46 paragraph 2)
5. What are the maximum doses (per appointment) for the following: (answer: see class notes and pg 46 table 3-5)
  - epinephrine, normal healthy pt. (ASA I or ASA II)
  - epinephrine, (ASA III or ASA IV)
  - levonordephrin, all patients
6. For the following situations, calculate the maximum number of cartridges each patient can receive: (answers are in your textbook, for example: answer to question “a” is in table 4-8 at the top of page 65, use the portion marked MRD-a [Maximum Recommended Dose – author / Dr. Malamed], look for patient’s weight in pounds – 80 lbs. – and read across to 160 mg lidocaine which is 4 cartridges)

When you are finished, go back and analyze your answers . . . notice how the number of cartridges changes as the patient’s weight changes, patient’s health status changes (ASAII to ASA III), and the anesthetic solution changes

- a. Normal, healthy pt., 80 lbs., lidocaine 2% epi 1:100,000
- b. Normal, healthy pt., 140 lbs., lidocaine 2% epi 1:100,000
- c. Normal, healthy pt., 200 lbs., lidocaine 2% epi 1:100,000
- d. ASA III, 80 lbs., lidocaine 2% epi 1:100,000
- e. ASA III, 140 lbs., lidocaine 2% epi 1:100,000
- f. ASA III, 200 lbs., lidocaine 2% epi 1:100,000
- g. Normal, healthy pt., 80 lbs., prilocaine 4% epi 1:200,000
- h. Normal, healthy pt., 140 lbs., prilocaine 4% epi 1:200,000
- i. Normal, healthy pt., 200 lbs., prilocaine 4% epi 1:200,000
- j. ASA III, 80 lbs., prilocaine 4% epi 1:200,000
- k. ASA III, 140 lbs., prilocaine 4% epi 1:200,000
- l. ASA III, 200 lbs., prilocaine 4% epi 1:200,000
- m. Normal, healthy pt., 80 lbs., mepivacaine 2% levo 1:20,000
- n. Normal, healthy pt., 140 lbs., mepivacaine 2% levo 1:20,000
- o. Normal, healthy pt., 200 lbs., mepivacaine 2% levo 1:20,000

- p. ASA III, 80 lbs., mepivacaine 2% levo 1:20,000
- q. ASA III, 140 lbs., mepivacaine 2% levo 1:20,000
- r. ASA III, 200 lbs., mepivacaine 2% levo 1:20,000
- s. Normal, healthy pt., 80 lbs., mepivacaine 3% plain
- t. Normal, healthy pt., 140 lbs., mepivacaine 3% plain
- u. Normal, healthy pt., 200 lbs., mepivacaine 3% plain
- v. ASA III, 80 lbs., mepivacaine 3% plain
- w. ASA III, 140 lbs., mepivacaine 3% plain
- x. ASA III, 200 lbs., mepivacaine 3% plain
- y. Normal, healthy pt., 80 lbs., articaine 4% epi 1:200,000
- z. Normal, healthy pt., 140 lbs., articaine 4% epi 1:200,000
- aa. Normal, healthy pt., 200 lbs., articaine 4% epi 1:200,000
- cc. ASA III, 80 lbs., articaine 4% epi 1:200,000
- dd. ASA III, 140 lbs., articaine 4% epi 1:200,000
- ee. ASA III, 200 lbs., articaine 4% epi 1:200,000
- ff. Normal, healthy pt., 80 lbs., articaine 4% epi 1:100,000
- gg. Normal, healthy pt., 140 lbs., articaine 4% epi 1:100,000
- hh. Normal, healthy pt., 200 lbs., articaine 4% epi 1:100,000
- jj. ASA III, 80 lbs., articaine 4% epi 1:100,000
- kk. ASA III, 140 lbs., articaine 4% epi 1:100,000
- ll. ASA III, 200 lbs., articaine 4% epi 1:100,000

8. For each of the above calculated maximum doses for local anesthetic, is it possible for the patient to experience an overdose (toxic) reaction, even if the calculated maximum dose has not been exceeded? If yes, in what way(s) is this possible? (answer : review chapter 18 / Systemic Complications)

9. If a patient is young or elderly/debilitated, should a practitioner modify the calculated maximum dose? If yes, how should the calculated maximum dose be modified? (answer:page 59 paragraph 2)