

• 10 mg/mL of anesthetic

Use the following to calculate the amount, in milligrams, of anesthetic or vasoconstrictor in a given solution:

a. For local anesthetic, a 1% solution has 10 mg/mL

- 100% solution would be 1000 mg/mL

** Total milligrams = (% of the solution) x (10mg/mL) x (mL of solution)

- 34 mg = (2) x (10) x (1.7) for a standard 2% lidocaine solution

b. For vasoconstrictor, 1;100,000 means 1 gram per 100,000 mL. This equates to 0.01 mg/mL.

- Total milligrams = (ratio in mg/mL) x (mL of solution)
- .017 mg epi = (.01 mg/mL) x (1.7 mL)

Calculation of Milligrams of Local Anesthetic Per Dental Cartridge (1.7 ml Cartridge)			
Local Anesthetic	Percent concentration	mg/ml	x 1.7 ml = mg/Cartridge
Articaine	4	40	68
Bupivacaine	0.5	5	8.5
Lidocaine	2	20	34
Mepivacaine	2	20	34
Mepivacaine	3	30	51
Prilocaine	4	40	68

Maximum Recommended Dosages (MRDs) of Local Anesthetics Available in North America			
Local Anesthetic	Maximum Recommended Dosage		
	mg/kg	mg/lb	MRD (mg)
Articaine With vasoconstrictor	7	3.2	500
Bupivacaine With vasoconstrictor	1.3	0.6	90
Lidocaine No vasoconstrictor	4.4	2.0	300
With vasoconstrictor	6.6	3.0	500
Mepivacaine No vasoconstrictor	6.6	3.0	300
With vasoconstrictor	6.6	3.0	400
Prilocaine No vasoconstrictor	6.0	2.7	400
With vasoconstrictor	6.0	2.7	400