

# Diltiazem

**Indications:** A-fib with RVR, Paroxysmal SVT

**Contraindications:** Known hypersensitivity; History or 12-lead showing WPW; Sick sinus syndrome or 2<sup>nd</sup> or 3<sup>rd</sup> AVB except if the patient has a functioning ventricular pacemaker; SBP < 90mmHg; Myocardial infarction and pulmonary congestion; Sinus tachycardia

**Concentration: 5 mg/mL**

## ADULT DOSING

Indication	Dose	Rate & Route	Note
A-fib with RVR – or – Paroxysmal SVT	1 <sup>st</sup> : 0.25 mg/kg <b>Max dose: 20 mg or 4 mL</b>	Slow IV/IO push over 2 minutes	SBP must remain > 90 mmHg  <b>OLMC required for 2<sup>nd</sup> dose 15 minutes after 1<sup>st</sup> dose.</b>
	2 <sup>nd</sup> : 0.35 mg/kg <b>Max dose: 25 mg or 5 mL</b>		

## ADULT DOSING

Adult Dosing Chart										
Weight lbs	100	110	120	130	140	150	<b>157</b>	160	170	<b>176 ≤</b>
Weight kgs	45	50	55	59	64	68	<b>71</b>	73	77	<b>80 ≤</b>
1st Dose mg	11.4	12.5	13.6	14.8	15.9	17.0	17.8	18.2	19.3	20.0
<b>1st mL</b>	<b>2.3</b>	<b>2.5</b>	<b>2.7</b>	<b>3.0</b>	<b>3.2</b>	<b>3.4</b>	<b>3.6</b>	<b>3.6</b>	<b>3.9</b>	<b>4.0</b>
2nd Dose mg	15.9	17.5	19.1	20.7	22.3	23.9	25.0	25.0	25.0	25.0
<b>2nd mL</b>	<b>3.2</b>	<b>3.5</b>	<b>3.8</b>	<b>4.1</b>	<b>4.5</b>	<b>4.8</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>

## PEDIATRIC DOSING

Indication	Dose	Rate & Route	Note
NONE			

## PEDIATRIC DOSING

**Precautions**

Cardiac Conduction: Diltiazem prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. Pregnancy category C.

**Adverse/Side Effects**

Headache, constipation, rash, nausea, flushing, edema, drowsiness, low blood pressure, and dizziness.

**Class**

Diltiazem hydrochloride is a calcium ion cellular influx inhibitor (slow channel blocker or calcium antagonist).

**Mechanism of Action**

Nondihydropyridine calcium-channel blocker: Inhibits extracellular calcium ion influx across membranes of myocardial cells and vascular smooth muscle cells, resulting in inhibition of cardiac and vascular smooth muscle contraction and thereby dilating main coronary and systemic arteries; no effect on serum calcium concentrations; substantial inhibitory effects on cardiac conduction system, acting principally at AV node, with some effects at sinus node. Diltiazem hydrochloride is extensively metabolized by the liver and excreted by the kidneys and in bile.

**Onset of Action**

3 minutes (IV Bolus)

**Peak Effect**

Varies

**Duration of Action**

1 – 3 hours (IV Bolus)