Selective Beta-1 Blockers

Selective ?1-blockers are drugs that act to block ?1-adrenergic receptors and typically treat cardiovascular diseases. They work to block the actions of norepinephrine and epinephrine on cardiovascular contractility, chronotropy, and the body's release of renin. These drugs can be remembered by commonly starting with a letter from A-M and containing the "-olol" suffix in their names, such as atenolol, esmolol, and metoprolol. Some ?1-blocking drugs also work as partial ?-agonists at high doses, such as acebutolol.



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Characteristics

"-olol" Suffix
Lolly
Like all ?-blockers, these medications have generic names ending with the suffix “-olol.” However, it is important to note that selective ?-blockers begin with a letter from A-M, as opposed to nonselective ?-blockers, which begin with a letter from N-Z. Two notable exceptions are the nonselective ?-blockers carvedilol and labetalol.

Drug Names

Beta-1 Selective
Selective (Β1) Beta-fish (1) Wand
These medications are selective for blocking ?1-adrenergic receptors. They decrease heart rate, contractility, and renin release.

Atenolol
Antenna-lolly
Atenolol is a ?1-blocker that does not cross the blood-brain barrier. This medication is typically indicated for arrhythmias, angina, MI, and hypertension (though it is not first-line for hypertension).

Esmolol
S-mole-lolly
Esmolol is a very short-acting drug with rapid onset. This medication is typically given via IV in certain operating room scenarios to treat tachycardia and supraventricular tachycardia (SVT). It is also the drug of choice in aortic dissection.

Metoprolol
Metro-pro-lolly
Metoprolol is a ?1-blocker typically used for rate control, angina, MI, and CHF. Because it crosses the blood-brain barrier, it can be used for migraine prophylaxis. It has off-label use for anxiety disorders as well.

Partial Beta agonists
Partial Beta-fish Dragonist
Some ?1-selective blockers also act as partial ?-agonists at high doses. This means that they have some intrinsic sympathomimetic activity along with their ?-blocking activities, like the medication acebutolol.

Acebutolol
Ace-butt-lolly
Acebutolol is a ?1-blocker with partial ?-agonist activity at high doses. It is typically indicated for arrhythmias and hypertension.

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