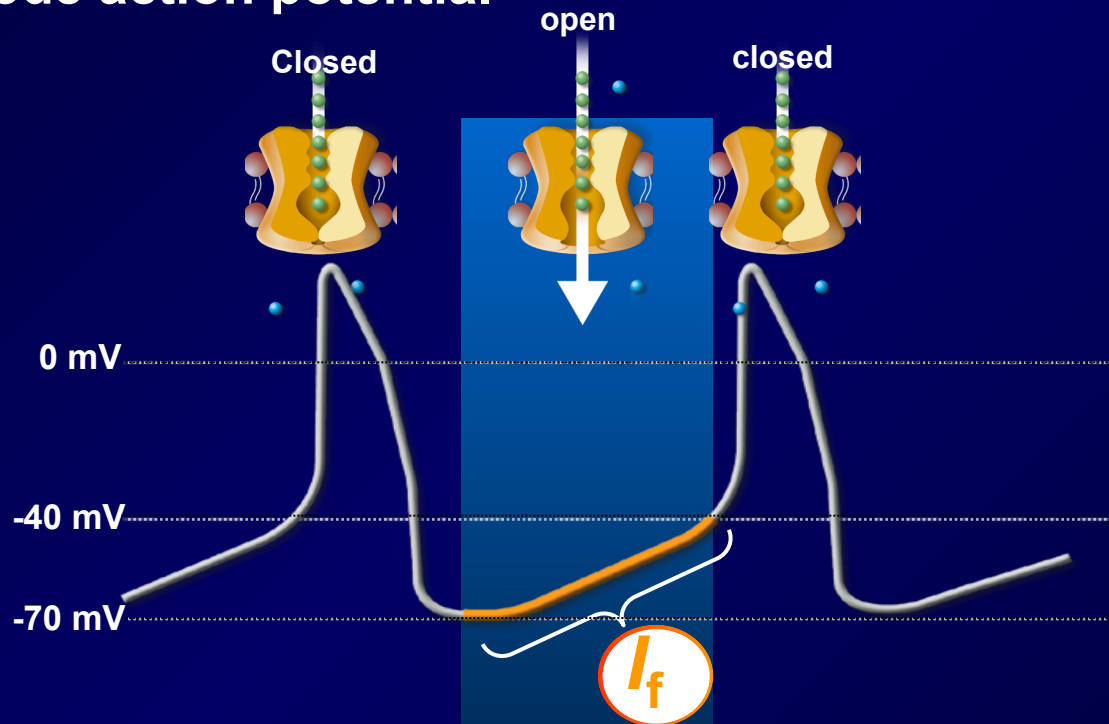


Therapeutic approaches for stable angina

Drug class	Vasodilation	Heart rate	Myocardial contractility
GTN (for acute symptom relief)	↑		
Beta-blockers		↓	↓
I _f -inhibitors		↓	
Long-acting nitrates	↑		
Calcium channel blockers	Dihydropyridines	Diltiazem and Verapamil	
	↑	↓	↓
Potassium channel activators	↑		

Selective Heart Rate Reduction

Sinus node action potential

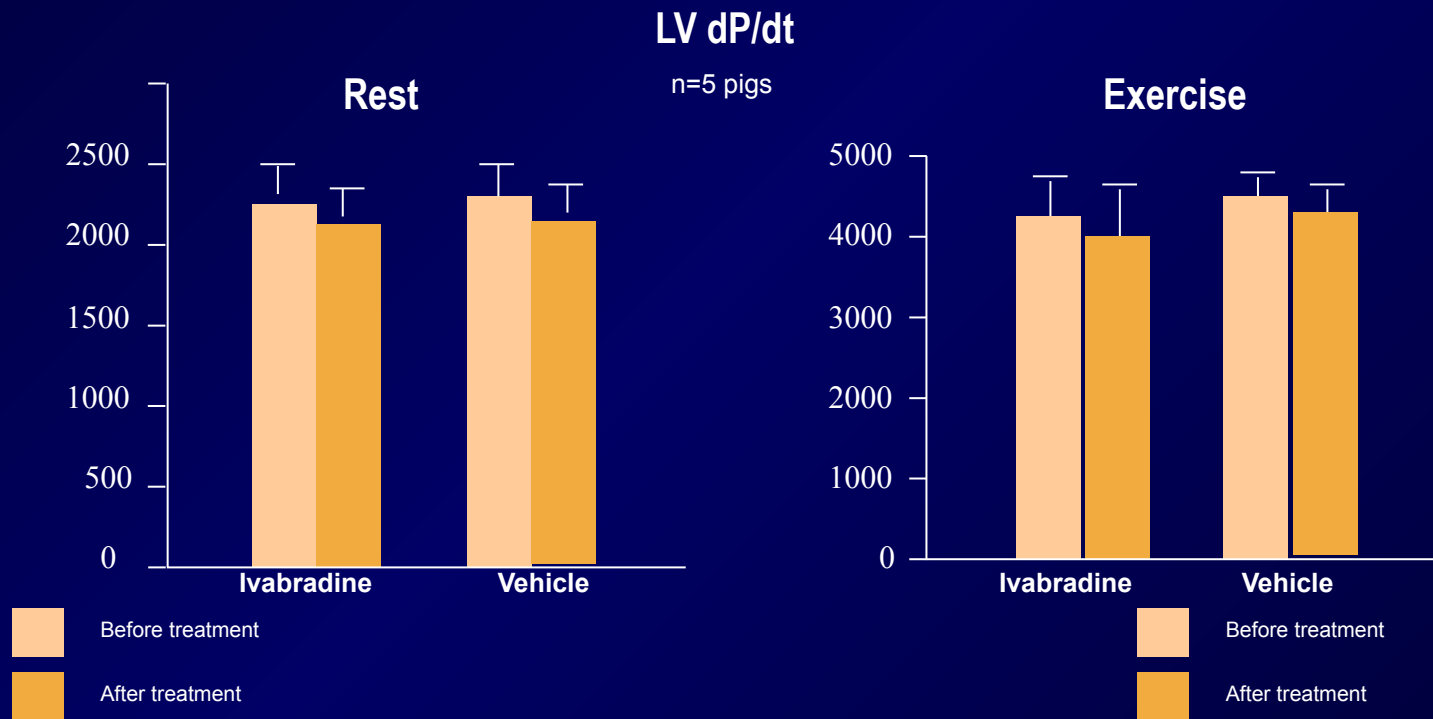


The I_f channels determine the slope of the diastolic depolarisation, which controls the frequency of action potentials and, therefore, heart rate

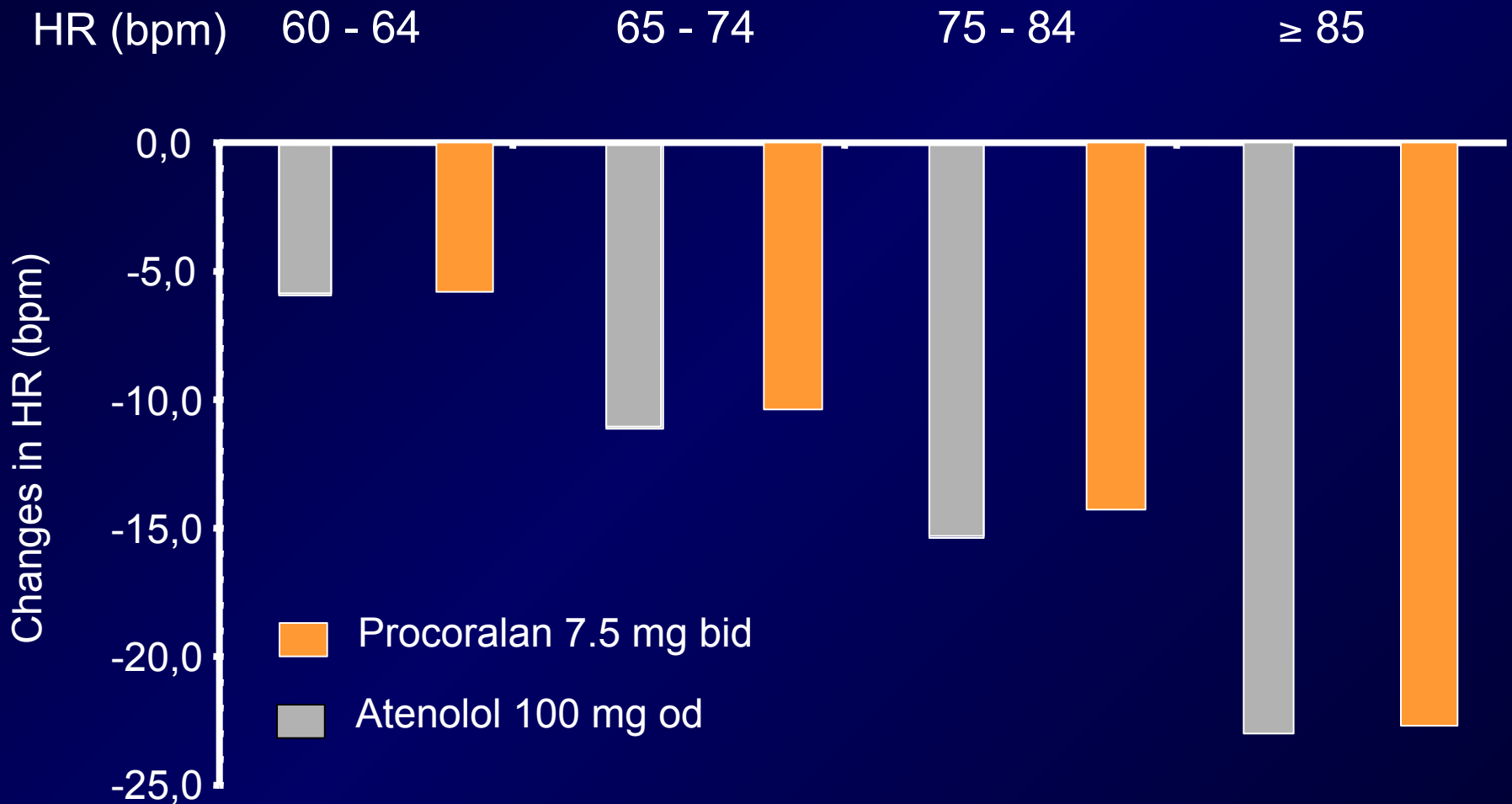
No negative inotropic effects

In pre-clinical animal model⁶

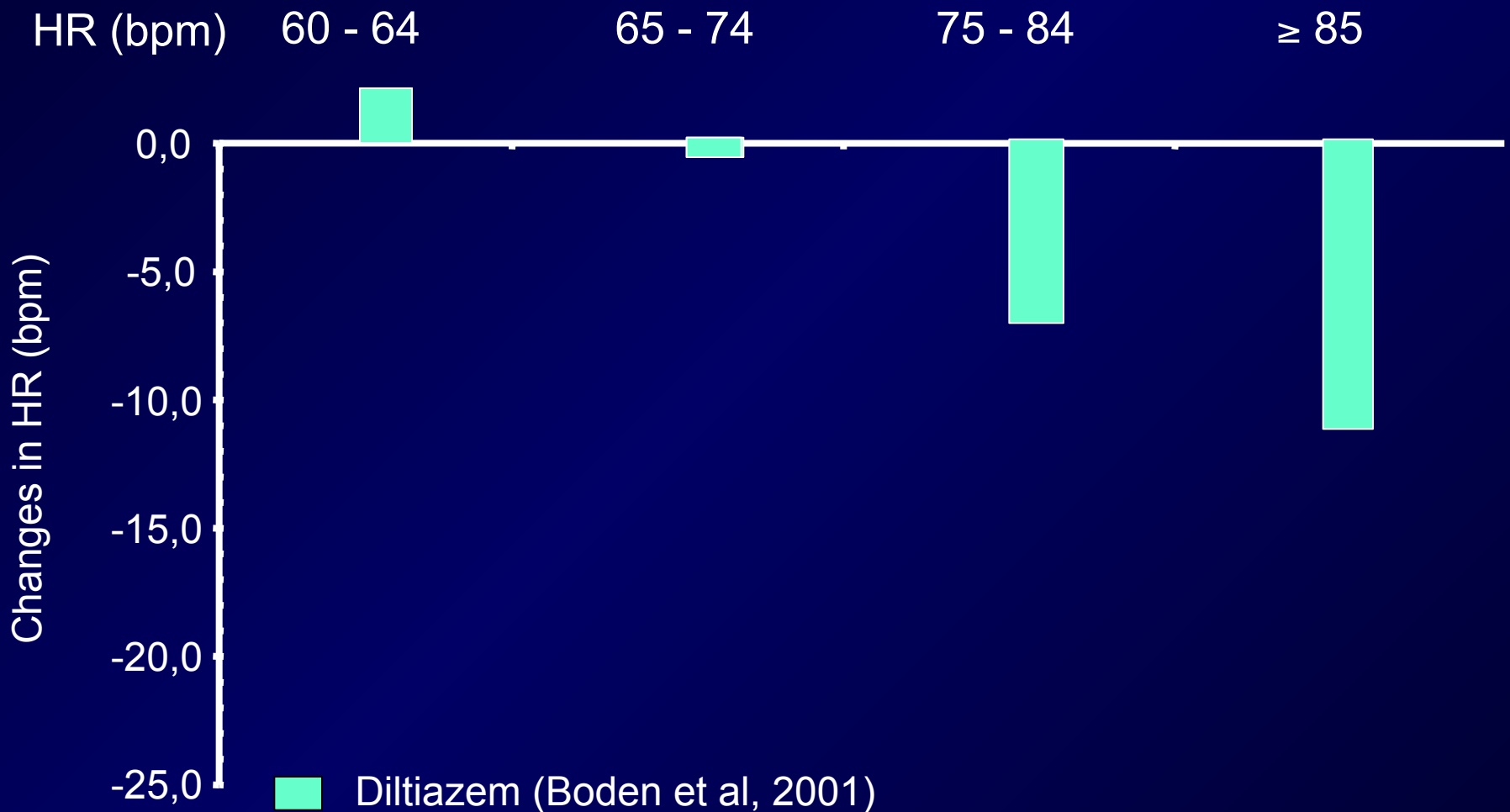
At rest and during exercise, myocardial contractility is maintained by ivabradine versus placebo



Heart Rate reduction with Procoralan



Heart Rate reduction with diltiazem



Ivabradine efficacy vs atenolol

Total Exercise Duration at trough

Atenolol
better

Ivabradine
better

E [95% CI]

Iva 5 mg bid
vs ate 50 mg od

6.7 [-7.4; 20.8]

Iva 7.5 mg bid
vs ate 100 mg od

10.3 [-8.3; 28.8]

Iva 10 mg bid
vs ate 100 mg od

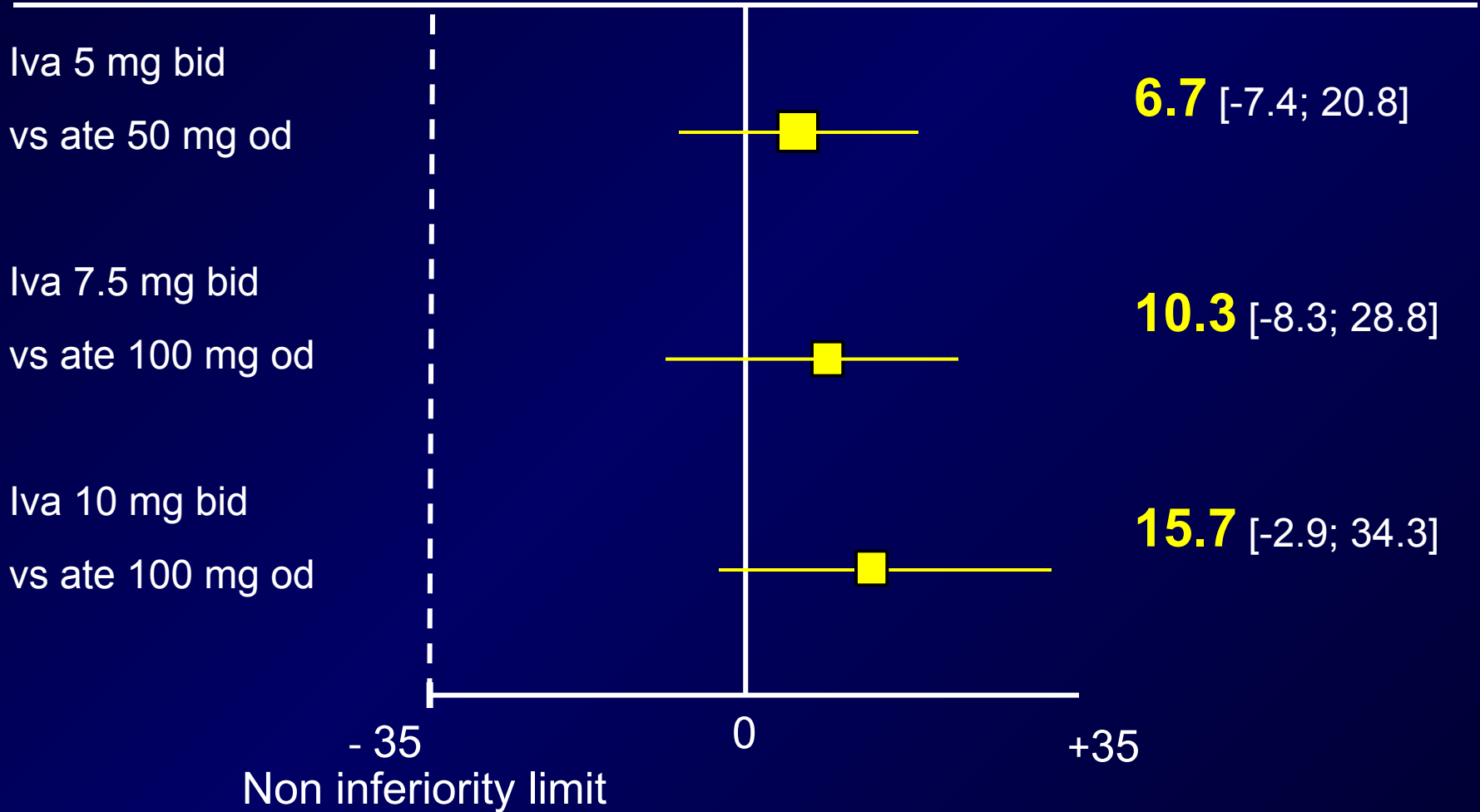
15.7 [-2.9; 34.3]

- 35

0

+35

Non inferiority limit



ESC Guidelines Treatment

Treatment aimed at improving symptoms

Level of
evidence

