# 11.3 Autonomic pharmacology

Name: _____ Class: _____ Date: _____ **Total: 24 marks**

**KEY WORDS** toxidrome

## Objective

Predict receptor effects; read the toxidromes.

## 1 Key knowledge and worked examples

### ■ The four rows

$\alpha$1 constricts vessels/dilates pupils; $\beta$1 heart; $\beta$2 airway; M3 glands, miosis, slow gut ✓. Agonists push; blockers silence.

### ■ Worked example: the map upside down

Cholinergic: salivation, miosis, bronchorrhoea, bradycardia ✓. Anticholinergic: dry, fixed dilated pupils, tachycardia, retention ✓. Adrenergic: fast, tight, sweating.

## 2 Practice

**2.1** Which receptor does a bronchodilator $\beta$-selective agonist avoid? [3]

**2.2** Name three anticholinergic findings. [3]

**2.3** Why does an $\alpha$1 blocker cause postural hypotension? [3]



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## 3 Exam-style questions

**3.1** Four fictional INN teaching drugs: a $\beta 1$ blocker, an $\alpha 1$ blocker, a $\beta 2$ agonist, an M blocker.

Predict two effects of each straight off the receptor map ($\beta 1$ blocker: rate and contractility $\downarrow$; $\alpha 1$ blocker: pressure $\downarrow$ with postural drop; $\beta 2$ agonist: airway opens, little cardiac effect; M blocker: dry mouth, blurred vision) ✓. Explain why a cardioselective $\beta 1$ blocker is preferred over non-selective in a patient with airway disease ✓. [8]

**3.2** Two fictional overdoses: patient A has pinpoint pupils, sweating and slow gut; patient B is dry, dilated and tachycardic.

Assign each toxidrome (cholinergic; anticholinergic) with the receptor rows that generate every finding ✓. Explain why patient A's bronchorrhoea is the dangerous feature for ventilation ✓. [7]



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