

# Adverse drug reactions and heart failure

Medication	Potential adverse effect	Considerations
Angiotensin Converting Enzyme Inhibitors (ACEI) / Angiotensin Receptor Blockers (ARB)	Dry cough <sup>1</sup>	<ul style="list-style-type: none"> <li>• Particularly with ACEI<sup>2</sup></li> <li>• Does not contraindicate continued therapy<sup>2</sup></li> <li>• If troublesome and persistent, substitution with an ARB may be considered<sup>2</sup></li> <li>• Pulmonary congestion due to heart failure should be discounted as cause of the cough prior to discontinuing ACEI<sup>2</sup></li> </ul>
	Angioedema <sup>1</sup>	<ul style="list-style-type: none"> <li>• May occur years after starting therapy<sup>3</sup></li> <li>• Counsel all patients to recognise and act upon symptoms</li> <li>• ARB may be trialled in patients with history of ACEI related angioedema, with close monitoring due to potential cross-sensitivity<sup>1</sup></li> </ul>
	Increase creatinine and potassium <sup>1</sup>	<ul style="list-style-type: none"> <li>• Monitor closely</li> </ul>
	Dizziness and hypotension <sup>1</sup>	<ul style="list-style-type: none"> <li>• Counsel patients to reduce risk of falls</li> <li>• Monitor and manage accordingly</li> </ul>
Beta-Blockers (BB)	Masking of hypoglycaemia symptoms (eg tachycardia, tremor). Increase incidence and severity of hypoglycaemia. <sup>1</sup>	<ul style="list-style-type: none"> <li>• Not contraindicated in diabetics<sup>4</sup></li> <li>• Beta 1 selective BB (eg bisoprolol or metoprolol) may be considered for diabetics<sup>1</sup>, especially if at risk of hypoglycaemia</li> </ul>
	Sleep disturbance and nightmares <sup>1</sup>	<ul style="list-style-type: none"> <li>• More common in BB with high lipid solubility (eg. carvedilol)<sup>5</sup></li> <li>• Consider use of less lipid soluble BB (eg bisoprolol)<sup>1</sup></li> </ul>
	Prevention of bronchodilation (beta-2 mediated) <sup>6</sup>	<ul style="list-style-type: none"> <li>• May be considered contraindication for asthmatics<sup>7</sup></li> <li>• Not contraindicated for patients with COPD<sup>7</sup></li> <li>• Beta 1 selective BB (eg bisoprolol or metoprolol) may be preferred<sup>7</sup></li> </ul>
	Fatigue <sup>1</sup>	<ul style="list-style-type: none"> <li>• Commonly listed as a potential side effect however only a small increase in fatigue has been associated with BB therapy<sup>6</sup></li> </ul>
	Dizziness and hypotension <sup>1</sup>	<ul style="list-style-type: none"> <li>• Counsel patients</li> <li>• Monitor and manage accordingly</li> </ul>

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Diuretics	Inconvenience of frequent voiding may compromise adherence	<ul style="list-style-type: none"> <li>• Consider alternate timing of diuretic doses (eg. loop diuretics may be administered in the morning and afternoon to minimise nocturia)</li> <li>• Advise patients to take diuretic when in vicinity of bathrooms rather than when travelling</li> </ul>
	May precipitate gout <sup>5</sup>	<ul style="list-style-type: none"> <li>• Consider prophylactic gout therapy</li> </ul>
Mineralocorticoid Receptor Antagonists (MRA)	Hyperkalaemia (especially for patients with renal impairment or when used concomitantly with ACEI, ARB, potassium sparing diuretics or potassium supplements) <sup>1</sup>	<ul style="list-style-type: none"> <li>• Vigilant electrolyte monitoring is required</li> </ul>
	Gynaecomastia (men) <sup>1,3</sup>	<ul style="list-style-type: none"> <li>• Not common</li> <li>• Occurs particularly with spironolactone<sup>1,3</sup></li> <li>• Counsel patients to report symptoms to their doctor</li> </ul>

Information within this table only highlights some adverse drug reactions of medicines in heart failure patients. Please refer to a comprehensive reference for a full description.

#### References

1. *Australian Medicines Handbook* 2012 (online). Adelaide: Australian Medicines Handbook Pty Ltd.
2. *National Prescribing Service*. Medication review for your patients with heart failure 2000.
3. *Micromedex. Healthcare Series* [Internet database]. Greenwood Village, Colo: Thomson Reuters (Healthcare) Inc. Updated periodically.
4. Hunt SA, Abraham WT, Chin MH, Feldman AM, Francis GS, Ganiats TG, et al. 2009 focused update incorporated into the ACC/AHA 2005 *Guidelines for the Diagnosis and Management of Heart Failure in Adults: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines*: developed in collaboration with the International Society for Heart and Lung Transplantation. *Circulation*. 2009;119(14):e391-479.
5. Sood J. *Focus on how to best carry out a medication review in heart failure*. *Pharmacy in Practice*. 2009;Sept.
6. Podrid P. *Major side effects of beta blockers*. UpToDate. 2013.
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