

## Appendix 4 Drug Interactions

When two or more drugs are given at the same time, they may exert their effects independently or they may interact. With the increase in the number of older patients who have retained some or all of their teeth and who may be on one or more long-term medications, identifying potential drug interactions that may occur between drugs prescribed in dental practice and the patient's current medication is increasingly important.

Drug interactions can involve a variety of mechanisms, including those where the normal concentration of a drug in tissue fluid is either reduced or increased due to the effects of a second drug on its ADME (absorption, distribution, metabolism, excretion) properties or those where the pharmacological effects of the first drug are modified (reduced or enhanced) due to the pharmacological effects of the second drug. See Seymour<sup>21</sup> and Dawoud et al.<sup>22</sup> for more information on the principles of drug interactions in dentistry.

Not all drug interactions have serious consequences. However it is important that dentists are aware of potentially harmful interactions when prescribing.

The most frequent interactions and side effects observed with drugs commonly prescribed in dentistry are:

- interactions of non-steroidal anti-inflammatory drugs (NSAIDs), carbamazepine, azole antifungals and antibiotics with warfarin;
- incidence of myopathy after prescribing azoles and clarithromycin in those taking statins;
- asthma symptoms exacerbated following the use of NSAIDs.

Drug interactions can be minimised by ensuring that the patient's medical history, including information on current medication, is up to date and by using alternative drugs where indicated.

The table overleaf lists the most common potential drug interactions likely to be encountered when prescribing in dental practice. However, always consult Appendix 1 of the BNF<sup>1</sup> or BNFC<sup>2</sup> ([www.bnf.org](http://www.bnf.org)) for more comprehensive information on drug interactions.

NHS Education for Scotland and the Yellow Card Centre Scotland (Centre for Adverse Reactions to Drugs Scotland) have developed a resource for healthcare professionals, including dentists, about Adverse Drug Reactions (ADRs), their incidence and public health implications. The resource comprises six online modules and includes interactive learning tasks and case studies. The resource can be accessed from [www.nes.scot.nhs.uk/education-and-training/by-discipline/pharmacy/about-nes-pharmacy/educational-resources/resources-by-topic/clinical-governance/patient-safety-adverse-drug-reactions.aspx](http://www.nes.scot.nhs.uk/education-and-training/by-discipline/pharmacy/about-nes-pharmacy/educational-resources/resources-by-topic/clinical-governance/patient-safety-adverse-drug-reactions.aspx)

## Appendix 4 Drug Interactions

Dental drug	Common interacting drug(s)	Recommendation
<b>Metronidazole</b>	Alcohol	Advise patients to avoid alcohol
	Warfarin	Do not prescribe metronidazole for patients taking warfarin
<b>Macrolide antibiotics</b> (e.g. clarithromycin)	Calcium channel blockers (e.g. nifedipine), carbamazepine, ciclosporin, domperidone, statins (e.g. simvastatin), theophylline, warfarin	Do not prescribe macrolide antibiotics for patients taking these drugs
<b>Azole antifungals</b> (e.g. fluconazole, miconazole)	Statins, warfarin, theophylline	Do not prescribe azole antifungals for patients taking these drugs
<b>Non-steroidal anti-inflammatories</b> (e.g. ibuprofen, diclofenac)	Antihypertensive drugs esp. beta-blockers (e.g. atenolol), ACE inhibitors (e.g. lisinopril) and diuretics	Avoid prescribing NSAIDs or ensure course is for 5 days or less
	Anticoagulants (e.g. warfarin, dabigatran)	Do not prescribe NSAIDs for patients taking these drugs
	Aspirin	Do not prescribe NSAIDs for patients taking a daily low dose of aspirin
	Lithium	Do not prescribe NSAIDs
	Methotrexate	Avoid prescribing NSAIDs
	Selective serotonin reuptake inhibitors (SSRIs e.g. fluoxetine)	Avoid prescribing NSAIDs
	Systemic corticosteroids	Only prescribe NSAIDs in combination with a proton-pump inhibitor
<b>Aspirin</b>	Alcohol	Advise patients to avoid alcohol for 12 hours after taking aspirin
	Clopidogrel	Avoid prescribing aspirin
	Non-steroidal anti-inflammatories (e.g. ibuprofen, diclofenac)	Do not prescribe aspirin for patients taking these drugs
	Selective serotonin reuptake inhibitors (SSRIs e.g. fluoxetine)	Avoid prescribing aspirin
	Systemic corticosteroids	Only prescribe aspirin in combination with a proton-pump inhibitor
	Warfarin	Do not prescribe aspirin for patients taking warfarin