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TOP-FIVE evolve

RECOMMENDATIONS on low-value practices

Better care. **Better** decision-making. **Better** use of resources.

The Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) is the professional and independent society in Australia and New Zealand with expertise in the use and toxicity of medicines and chemicals.

ASCEPT seeks to advance health by promoting and advocating for education and research in pharmacology and toxicology and the application of these two disciplines.

1. Recognise, rationalise or stop the prescribing cascade to reduce number of drugs which may interact

2. Reduce the use of medicines when there is a safer or more effective non-pharmacological management strategy

3. Prescribe the minimum dose necessary for the patient to optimise the 'benefit-to-risk' ratio and achieve the patient's therapeutic goals, considering individual physiology, pathophysiology, and markers of effectiveness and toxicity

4. Stop medicines when no further benefit will be achieved, or the potential harms outweigh the potential benefits

5. Consider the off-label use of a medicine outside clinical trials as last-line therapy, and evaluate all intended off-label use against the CATAG guiding principles

1 Recognise, rationalise or stop the prescribing cascade to reduce number of drugs which may interact

A prescribing cascade refers to a situation whereby a drug adverse reaction is misdiagnosed as a new medical condition, resulting in one or more additional medicines being prescribed. This inappropriate use of medicines places the patient at risk and increases treatment costs. Examples include the initiation of an antiparkinson medicine to treat antipsychotic induced extrapyramidal side effects and the initiation of antihypertensive medicines to treat NSAID-induced hypertension. Prescribing cascades are most prevalent when multiple medicines are prescribed on a long-term basis. Older patients are at higher risk of suffering from a prescribing cascade – a variety of adverse reactions can be misdiagnosed as new geriatric syndromes such as falls, dizziness and new-onset incontinence.

Prescribers should consider the potential for an adverse effect of a newly prescribed medicine by asking patients about new symptoms. Non-pharmacological treatments should be used as initial management, rather than starting a second medicine to counteract adverse effects. To prevent the harm associated with a prescribing cascade, prescribers should place strong emphasis on prevention, detection and reversing the prescribing cascade. Strategies to do so include: conducting a medication review, starting new medicines at a low initial dose, using medicines with fewer side effects and asking questions to recognise a prescribing cascade.

2 Reduce the use of medicines when there is a safer or more effective non-pharmacological management strategy

Pharmacological treatments should be avoided or minimised if safe or effective non-pharmacological alternatives are available. The use of pharmacological treatments as a panacea for chronic lifestyle-related problems may detract from behaviour management tools that have proven effective in managing these same problems. The risk of adverse effects associated with pharmacological treatments may be avoided by using non-pharmacological management strategies. For instance, in the management of chronic non-cancer pain, there is a lack of high-quality evidence supporting high doses of opioids while non-pharmacological management strategies have been shown to improve function and pain. Similarly, several types of non-pharmacological management strategies are effective in alleviating different aspects of behavioural and psychological symptoms of dementia.

3 Prescribe the minimum dose necessary for the patient to optimise the 'benefit-to-risk' ratio and achieve the patient's therapeutic goals, considering individual physiology, pathophysiology, and markers of effectiveness and toxicity

Therapeutic dosage should be adjusted to optimise the benefit-to-risk ratio of the treatment. Dosage should be no higher or lower than needed to achieve the patient's therapeutic goals. Individual physiology and pathophysiology, such as age or organ dysfunction, and markers of effectiveness and toxicity, including drug concentrations where available, should be considered in any dosing decision. High drug doses are not necessarily more effective than low doses and lower doses may prove sufficient to meet treatment goals. Further, higher doses have an increased risk of adverse effects, particularly in older, frail patients. The effective dose 50 (ED50) is that dose which produces 50% of the desired effect in 50% of the population. It is a population parameter that can be considered in dose initiation decisions alongside the individual's parameters. Close clinical monitoring of the desired response, drug concentrations where indicated and adverse effects, with subsequent dose adjustment is recommended to achieve the optimal dose.

4 Stop medicines when no further benefit will be achieved, or the potential harms outweigh the potential benefits

Pharmacological treatments should cease when there are no further benefits to be achieved from the treatment, or when the potential harms from the treatment start to outweigh the potential benefits for the individual patient. This is particularly relevant for frail elderly patients with a limited life expectancy who are at an increased risk of polypharmacy and increased drug events. In these patients, some treatments which lack evidence of benefits are unlikely to prevent disease events and may in fact lead to adverse effects that reduce quality of life. Such common treatments include the short-term use of lipid lowering agents and osteoporosis therapies, stringent blood pressure and blood glucose control, and the use of anti-platelet agents for primary cardiovascular prevention. People with hyperpolypharmacy are also at particular risk of treatment related harms. Prescribers can use relevant criteria (e.g., Beers Criteria and Screening Tool of Older People's Prescriptions (STOPP) criteria) as an evaluation and decision framework for identifying, reducing or stopping potentially inappropriate medications.

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5 Consider the off-label use of a medicine outside clinical trials as last-line therapy, and evaluate all intended off-label use against the CATAG guiding principles

Off-label prescribing involves the use of a medicine outside the TGA approved conditions for age, therapeutic indication, dosage, route, and timeframes. Off-label prescribing is associated with increased uncertainty over effectiveness and the risk of unexpected toxicity and adverse effects, especially in non-evidence based off-label drug use. A prescriber must consider the ethical and legal issues linked with off-label medicine use.

To assess the appropriateness off-label medicine use, the Council of Australian Therapeutic Advisory Groups (CATAG) recommends a critical evaluation of high-quality evidence about clinical safety: the subsequent decision regarding the process for approval, patient consent and monitoring should be informed by the level and quality of evidence supporting the use of off-label medicine. High-quality evidence supporting off-label use not only provides a strong justification, but also protect patients from harmful, ineffective and expensive treatments. The critical evaluation of evidence process should engage with an appropriate mix of expertise to optimize decisions about appropriate practice and further research.

For the list of references supporting these recommendations and further information on the development process, see **https://evolve.edu.au/recommendations/ascept**

WHAT IS EVOLVE?

Part of a global movement, Evolve is an initiative led by physicians and the Royal Australasian College of Physicians (RACP) to drive high-value, high-quality care in Australia and Aotearoa New Zealand.

As medical practice and medical research continues to grow in volume and complexity, physicians can be inundated with new guidelines, new research and new information. Evolve helps physicians to stay abreast of the current evidence and recommended best practice to support the provision of high-value, high-quality care to patients.

How Does Evolve Work?

Evolve identifies a specialty's top-five clinical practices that, in particular circumstances, may be overused, provide little or no benefit, or cause unnecessary harm.

Evolve recommendations are developed through a rigorous, peer-reviewed process; led by clinical experts, informed by in-depth evidence reviews, and guided by widespread consultation.