Demographic changes mean that prescribing for the elderly is becoming an increasingly important aspect of clinical care. Older patients have a higher prevalence of chronic and multiple illness and physiological changes associated with ageing may masquerade as illness. They are thus more likely to be prescribed medication by their doctors and to take multiple agents. This puts them at a higher risk of suffering adverse drug reactions (ADRs), adverse drug events and drug-drug interactions.

Common medication errors include wrong medication, having no indication, too short or too long treatment duration, incorrect dose, treatment is not cost-effective, medication is not suitable for the patient’s circumstances, drug-drug interactions not considered, drug-disease interactions not considered and failure to initiate appropriate, indicated pharmacotherapy (errors of omissions). Inappropriate prescribing on the other hand may include the use of a drug that has the wrong indication or that has no indication or that has a high risk of ADR i.e. adverse drug-drug or drug-disease interactions or Adverse Drug Event (ADE) or that is unnecessarily expensive or for too short or too long a time period or the failure to prescribe appropriate drug therapy for irrational or ageist reasons.

The balance of benefit and harm of some medicines may be altered in the elderly e.g. increased falls risk. Therefore, elderly patients’ medicines must be reviewed regularly and medicines which are not of benefit should be stopped.

Pharmacokinetics and pharmacodynamics may be altered by normal ageing or disease, further heightening the risk of ADRs. It is also worth remembering that patients aged >65-70 years are rarely enrolled in clinical trials and it cannot be assumed that evidence derived from studies in younger patients can be applied to their age group.

When prescribing, there are a number of points to take into account. Prescribe only where necessary, and consider benefits versus risks. Involve the patient in decisions about their care and respect patient autonomy.

Issues which need to be considered include:
- Patient’s age, medical history and any concurrent medication
- Evidence-based prescribing
- Interaction with other drugs
- Concordance, tolerability and formulation
- Adverse effects
- Checking dosages
- Using prescribing formularies

When patients lack the mental capacity to consent to treatment, medication may still be prescribed and administered to them, provided the principles of the Mental Capacity Act 2005. Also, practitioners may want to refer to the GMC consent guidance ‘Making decisions when a patient lacks capacity’.
Some principles for prescribing in older patients

- Is it needed: Balance the potential harm and benefits of a given agent and evidence-base in the context of the older patient, their medical problems, lifestyle and resources to cope with taking a drug.
- Conduct a regular review of older patients' prescriptions and assess the risk/benefit balance in an ongoing fashion; medicines which appear to have no benefit, or are producing unacceptable adverse effects should be stopped.
- Consider non-pharmacological treatments.
- Psychological factors such as recent bereavement and social isolation should be considered and addressed before reaching for the prescription pad.
- When prescribing prophylactic medications, consider whether it is appropriate in the context of the whole person and their co-morbidities, the risks of taking the medication, the likelihood of compliance and the population from which the original evidence of effectiveness was identified.
- Older patients should not be denied preventative pharmacological agents such as warfarin and statins but their use should be carefully considered.
- The following medications should be used very cautiously in older adults: first generation antihistamines, loop diuretics, muscle relaxants, long-acting benzodiazepines e.g. chlordiazepoxide, fluazepam, nitrazepam, chlorazepate and benzodiazepines with long-acting metabolites e.g. diazepam, digoxin > 0.125 mg, tricyclic antidepressants, selective serotonin re-uptake inhibitors (SSRI's) for patients with a history of clinically significant hyponatraemia, anticholinergics to treat extra-pyramidal side-effects of neuroleptic medications, and long term use of antipsychotics.
- Use appropriate formulation e.g. liquids for patients with swallowing problem.
- Avoid symptomatic prescribing: Where an older patient presents with new symptoms it is wiser to conduct a thorough assessment and attempt to reach a diagnosis before prescribing. Symptomatic prescribing in the older patient tends to lead to a vicious cycle of polypharmacy, adverse effects and further prescribing to treat these new 'symptoms'.
- Limit the range of drugs you use in older patients: it's a good idea to have a small formulary for older patients and to be aware of the indications, contraindications and potential side-effects of these drugs in this group.
- Start low, go slow: initial dosage should be carefully considered and usually about half of the normal adult dose. Dose titration should be cautious and carried out in small increments, watching out for side-effects.
- Keep it simple: use drug regimens with the lowest number of different agents and with dosing intervals of once or twice daily. Avoid complicated or multiple dosing regimens where possible. Avoid polypharmacy.
- Make it clear: avoid imprecise prescribing such as 'as directed', providing full dose, frequency and route, on first and repeat prescriptions. Where necessary, use dosette boxes or other aids to help the patient take the medication as it is intended.
**For further reading:**


Department of Health. Medicines for Older People: Implementing medicines-related aspects of the NSF for Older People, 2001


Goulding M. Inappropriate medication prescribing for elderly ambulatory care patients. *Arch Intern Med* 2004 ;164(3):305-12

