NHS Lanarkshire Care Homes Protocol Group

Prescribing and Polypharmacy Guidelines

<table>
<thead>
<tr>
<th>Date of Publication</th>
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<tbody>
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</tr>
</tbody>
</table>
1. Introduction

2. Medication Reviews

3. Prescribing House-keeping
   a) House-keeping
   b) Acute Prescriptions
   c) Ordering Repeat Prescriptions

4. Consent to Treatment and Capacity to Consent

5. Non-Drug Treatments

6. Temporary With-holding Of Medication During Intercurrent Illness

7. Polypharmacy – General
   a) High Risk Combinations
   b) Drugs Which Are Poorly Tolerated In The Elderly
   c) Drugs Commonly Associated With Admissions Due To Adverse Reactions
   d) Orthostatic Hypotension
   e) Drugs With Shared Side-effects
   f) Diabetic Treatment
   g) Antipsychotic Medication In Dementia
   h) Laxatives

8. Polypharmacy – Shortened Life Expectancy
   a) Prognostic Indicators
   b) Vital Hormone Replacement
   c) Drugs Which Can Be Associated With Rapid Symptomatic Decline If Stopped
   d) Review of Cognitive Enhancer Medication
   e) Liquid Formulations

Acknowledgements

Appendices

1) Relative Efficacy Document
2) Prescribing and Polypharmacy Algorithm

References
1. Introduction

This guideline is intended to help practices involved in the NHS Lanarkshire care homes local enhanced service with their prescribing governance with respect to their care home patients.

The guidelines cover medication reviews, prescribing house-keeping, polypharmacy and prescribing for the latter stages of life.

With respect to polypharmacy, the guideline is intended to help practices come to rational judgements when making difficult choices in initiating or continuing treatments whilst avoiding over-medication with treatment of limited prognostic or symptomatic value and whilst also considering the risk of side-effects to which the frail elderly are susceptible.

It is not intended that the guidelines be overly prescriptive as each case has to be dealt with individually and will require clinical judgement on the part of the practice.

2. Medication Reviews

As part of the specification for the local enhanced service, practices are required to carry out a medication review on initial assessment and at annual review for their care home patients.

A medication review is described as “a structured critical examination of a patient’s medicine with the objective of reaching agreement with the patient about treatment, optimising the impact of medicines, minimising the number of medication-related problems and reducing waste”.

The National Prescribing Centre describes 3 types of medication review: -

- Type 1 – Prescription Review – a records-based review of the patient’s list of medication
- Type 2 – Concordance and Compliance Review – a review of the patient’s medication-taking behaviour – the patient does not necessarily have to be present
- Type 3 – Clinical Medication Review – a face-to-face review with the patient of his/her medication and his/her clinical condition.

For the purpose of the formal initial assessment and annual review of the care home patients, a type 3 review should be carried out.

In the care home setting, type 1 reviews would be suitable for general repeat prescription house-keeping and for medicines reconciliation following an admission to hospital.
3. Prescribing House-keeping

a) House-keeping

For the avoidance of unnecessary polypharmacy and waste, the patient's list of regular repeat prescriptions should be kept as short as possible. The repeat prescription list should only contain those medications which are taken on a regular daily basis and those “as required” medications which are needed on a frequent basis.

“As required” medications which are needed infrequently should not be included on the repeat prescription list, nor should items which are only needed every few months, e.g. depot medications or hydroxocobalamin. However, it is important that the care home records when items such as hydroxocobalamin are due to be given again in order that these items are not overlooked.

b) Acute prescriptions

As regards issuing acute prescriptions, it can be helpful to identify an acute prescription as being distinct from a repeat prescription. For example, annotating an acute prescription with the word “acute” (or similar wording such as “review 2 weeks”) can be useful in making it clear to the care home and the pharmacy that the item should not be re-ordered with the rest of the patient’s regular repeat prescription.

c) Ordering repeat prescriptions

In view of the number of repeat prescriptions issued for care homes patients each month, it is important that the practice, care home and pharmacy have good procedures in place and that these procedures are reviewed and discussed regularly. This is important to avoid over-ordering and to save professionals’ time by avoiding numerous phone calls between practice, home and pharmacy to address problems.

One good example of repeat prescribing ordering involves a nurse (or care worker) from the care home visiting the practice at the time of the monthly repeat prescription run to clarify the prescriptions as they are being generated. Although this process is labour-intensive, it makes for efficient repeat prescribing.

d) Directions

It is important that vague directions such as “as directed” be avoided when issuing prescriptions and this is particularly common in treatments use topically. Where possible, directions should be specific, e.g. “apply twice daily to affected area”.

4. Consent to Treatment and Capacity to Consent

In coming to decisions regarding treatment, it is important that the prescriber involves the patient or, if appropriate, relevant others in discussing the treatment.
Should a patient have capacity under the terms of the Adults with Incapacity (Scotland) Act, the patient is able to give or with-hold consent his or herself.

Should a patient lack capacity, an AWI Section 47 certificate should be issued by the GP in relation to the treatment under consideration, if such a certificate is not already in place.

If the patient who lacks capacity has a welfare attorney or welfare guardian, the attorney or guardian can, in the majority of situations, give or with-hold consent on the patient’s behalf. Therefore, the prescriber should discuss the treatment under consideration with the welfare attorney or welfare guardian.

If the patient who lacks capacity does not have a welfare attorney or welfare guardian, the GP responsible for the patient’s treatment may make decisions about treatment although such decisions must be taken in the best interest of the patient. In coming to such decisions, the GP should take into account the patient’s wishes, expressed whilst still capable, and the GP should also take into account the views of relevant others, such as a close relative or the main carer.

More detailed guidance is provided in the AWI legislation and also by the Mental Welfare Commission.

5. Non-Drug Treatments

In considering treatment options for frail elderly care home patients, it is important to bear in mind that non-drug treatments often have an important role to play. Indeed, this is high-lighted in the Scottish Government Dementia Strategy.

This is particularly relevant, not only in dementia, but also in agitation and delirium where non-drug treatments, e.g. managing the patient in a quiet area with subdued lighting, should often be used first line before drug treatment. Further information is available in the existing NHS Lanarkshire Guidelines for the Diagnosis and Management of Delirium.

Similarly, the existing care homes Falls Strategy indicates that assessment of non-drug interventions is often more valuable than medication interventions.

6. Temporary With-holding Of Medication During Intercurrent Illness

At times of intercurrent illness, the frail elderly care home population may be more susceptible to adverse events from their medication. This is particularly the case when a patient’s oral intake is poor or if they are losing excess fluid e.g. due to fever or diarrhoea.
In these circumstances, it may be advisable to withhold temporarily medication which may aggravate dehydration or which are more likely to cause toxicity if renal perfusion and function is impaired.

The drugs most commonly associated with adverse events in these circumstances are diuretics, ACE inhibitors and angiotensin 2 receptor blockers. However, other drugs such as NSAIDs and digoxin also need to be considered.

7. Polypharmacy – General

The frail elderly care home population is more likely to be taking multiple medications but is also more likely to suffer from adverse effects from these medications. This section of the guideline is intended to help practices come to decisions about which medications should be continued and which could be discontinued safely.

When prescribing for this population, prescribers should bear in mind factors such as low body mass and impaired renal function as these factors may influence choice of drug or choice of dose or strength. For example, digoxin dose may need to be introduced in a low dose in renal impairment. Similarly, paracetamol may need to be prescribed in a reduced dose for patients of less than 50kg in weight. These are just two examples but there are numerous other drugs in which dose modification may be necessary.

a) High Risk Combinations

The following are highlighted as being particularly high risk combinations and should be avoided where possible and clearly justified when considered necessary. This list is NOT exhaustive, and the safety of other drugs has to be considered depending on individual circumstances.

NSAID
+ Angiotensin Converting Enzyme Inhibitor [ACE] or Angiotensin 2 Receptor Blocker [ARB] + Diuretic ['Triple Whammy’ combo]
+ eGFR <60
+ diagnosis heart failure
+ Warfarin
+ age >75 without PPI

Warfarin
+ another antiplatelet. It is noted that although specific indications for this exist. In a frail group of patients the risk is high and combination should be challenged unless specifically noted as having taken account of patient frailty/polypharmacy. (See Drugs with Shared Side-Effects below regarding relative risk of bleeding).
+ NSAID
+ Macrolide
+ Quinolone
+ Metronidazole
+ azole antifungal
Heart Failure diagnosis
   + Glitazone
   + NSAID
   + Tricyclic antidepressant

b) Drugs Which Are Poorly Tolerated In The Elderly

Similar to above, although sometimes necessary, the following groups are noted to be poorly tolerated and associated with adverse events [esp. falls]. It is particularly important to clarify if patients on the following have a Valid and Current Indication and are still felt to be effective. Attention is still needed when considering stopping these. (See section below – Drugs associated with rapid symptomatic decline if stopped)

- Digoxin in higher doses 250microgram +
- Antipsychotics [although note caution re rapid symptomatic decline]
- Tricyclic Antidepressants
- Benzodiazepines particularly long term
- Anticholinergics
- Phenothiazines [e.g. prochlorperazine]
- Combinations painkillers [e.g. CoCodamol v Paracetamol]

c) Drugs Commonly Associated With Admissions Due To Adverse Reactions

In 2004 UK study most common drug groups associated with admission due to ADR were3

1. NSAIDs 29.6%
2. Diuretics 27.3%
3. Warfarin 10.5%
4. ACE 7.7%
5. Antidepressants 7.1%
6. Beta blockers 6.8%
7. Opiates 6%
8. Digoxin 2.9%
9. Prednisolone 2.5%
10. Clopidogrel 2.4%

d) Orthostatic Hypotension

Orthostatic hypotension is an important common problem in the frail elderly and it is often medication-related. Indeed, some clinicians advocate treating blood pressure in the elderly based on the standing blood pressure reading. However, orthostatic hypotension is seldom properly assessed.

Please see the embedded document below regarding orthostatic hypotension and the correct method of assessing orthostatic hypotension.

Attached file: Wishaw COTE Orthostatic Hypotentens
e) Drugs With Shared Side-Effects

In addition to those drugs which can lead to hypotension, there are other groups of drugs which have shared side-effects which can lead to avoidable morbidity in the elderly, particularly if these drugs are used in combination. Prescribers should bear the risk of shared side-effects in mind.

i) Anti-Cholinergic Side-Effects

Anti-cholinergic side-effects are common to a number of different groups of drugs, e.g. tricyclic anti-depressants, anti-spasmodics and drugs for irritable bladder. Anti-cholinergic side-effects are a not uncommon cause of falls, constipation and urinary retention in the care home population.

ii) Sedative Side-Effects

Similarly, sedative side-effects are common to a wide range of drugs, e.g. anti-depressants, hypnotics, anxiolytics, analgesics, anti-psychotics. When used in combination, these groups of drugs can lead to increased levels of sedation and falls are not uncommon sequelae.

iii) Bleeding

When warfarin and anti-platelet drugs are used in combination, the risk of significant bleeding increases markedly. The figures below quantify the level of risk.

Taking warfarin as baseline i.e. 1 risk of bleeding in a recent large study is as follows:

<table>
<thead>
<tr>
<th>Drug Combination</th>
<th>Risk of Bleeding</th>
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<tbody>
<tr>
<td>Aspirin</td>
<td>0.93 [0.88 - 0.98]</td>
</tr>
<tr>
<td>Clopidogrel</td>
<td>1.06 [0.87 - 1.29]</td>
</tr>
<tr>
<td>Aspirin + Clopidogrel</td>
<td>1.66 [1.34 - 2.04]</td>
</tr>
<tr>
<td>Warfarin + Aspirin</td>
<td>1.83 [1.72-1.96]</td>
</tr>
<tr>
<td>Warfarin + Clopidogrel</td>
<td>3.08 [2.32 - 3.91] 13.9% bleed /patient year</td>
</tr>
<tr>
<td>Warfarin + Aspirin + clopidogrel</td>
<td>3.7 [2.89 - 4.76] 15.7% bleed /patient year</td>
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Bleeding here = admission to hospital with bleeding related episode or death with bleed.
Average Age in trial 70
Main indication. 82 854 patients surviving hospitalisation with atrial fibrillation.
Stroke occurrence lowest in warfarin-only group

f) Diabetic Treatment

In the frail elderly there is an increased risk of adverse outcomes if glycaemic control is either very poor or overly strict. Evidence suggests that a HbA1c result of 7.5% is optimum in such patients.

Researchers analysed data from nearly 48 000 primary care patients who had stepped up their hypoglycaemic treatment. Hb A1c around 7.5% had the lowest mortality. Risk of death rose significantly on both sides of this reference group, reaching a hazard ratio of
1.52 (1.32 to 1.76) for patients in the bottom 10th of HbA1c concentration (median 6.4%), and 1.79 (1.56 to 2.06) for patients in the top 10th (median 10.5%).

g) Antipsychotic Medication in Dementia

The existing Anti-psychotic Medication in Dementia guideline is pertinent in the context of polypharmacy and is included here for ease of reference.

Please see the embedded flow-chart below, outlining the limited use of antipsychotic medication in patients with dementia.

![Flow-chart for the Use of Anti-psychotic](image)

h) Laxatives

Medication reviews carried out by colleagues in the Care Inspectorate indicate that laxative polypharmacy is a not uncommon problem.

In keeping with Section 5 above, prescribers are reminded that the first step in managing constipation should be non-drug treatment with high fibre diet, good fluid intake and, where practical, physical activity.

Also, practices should review the use of any drugs which commonly cause constipation as a side-effect, such as codeine, opiates, tricyclics and anti-cholinergics.

Should the prescription of laxative medication prove necessary, prescribers are advised to follow NHS Lanarkshire Formulary guidance. The relevant section of the NHS Lanarkshire Formulary is embedded below for ease of reference.

![NHS Lanarkshire Formulary - Laxative](image)

8. Polypharmacy – Shortened Life Expectancy

This section deals with the latter stages of life for care home patients and it is aimed at the months or weeks leading up to death.

However, this section does not deal with the final days of life as these issues are already addressed by the Liverpool Care Pathway which is in use in the care homes.

a) Prognostic Indicators
Practices will already be familiar with the Gold Standards Framework for palliative care for patients with cancer or end stage organ failure. However, the Gold Standards Framework also covers frail elderly and dementia patients and, as such, is of relevance to the care home setting.

As regards frailty, the poor prognostic indicators are: -

- Multiple co-morbidities with signs of impairments in day to day functioning
- Deterioration functional score e.g. EPOC/Karnofsky
- Combination of at least 3 of the following: - weakness, slow walking speed, low physical activity, weight loss, self reported exhaustion

With respect to dementia, the poor prognostic indicators are: -

- Inability to walk without assistance, and
- Urinary and faecal incontinence, and
- No consistently meaningful verbal communication, and
- Inability to dress without assistance
- Bartel < 3
- Reduce ability to perform activities of daily living
- Plus any one of the following: - 10% weight loss in previous 6 months with no other causes, pyelonephritis or UTI, serum albumin 25g/l, severe pressure sores e.g. stage III/IV, recurrent fevers, reduced oral intake, aspiration pneumonia

The embedded PDF file below contains the full GSF guidance in relation to prognostic indicators for diagnosing shortened life expectancy.

b) Vital Hormone Replacement

Drugs such as levothyroxine, insulin and hydrocortisone for adrenal replacement should be continued in the latter stages of life until such time as the Liverpool Care Pathway is being considered.

c) Drugs Which Can Be Associated With Rapid Symptomatic Decline If Stopped

Drugs in this group may be in need of review but commonly will require specialist advice or cautious stepwise withdrawal

- ACE inhibitors in heart failure [left ventricular impairment]
- Diuretics in heart failure
- Steroids
- Drugs for heart rate or rhythm control [Beta Blockers; Digoxin]

Drugs for which specialist advice is strongly advised before altering include.
• Anticonvulsants for epilepsy
• Antidepressant, antipsychotic and mood stabilising drugs [e.g. Lithium]
• Drugs for the management of Parkinson's Disease
• Amiodarone
• Disease modifying Anti-rheumatic drugs.

d) Review Of Cognitive Enhancer Medication

The existing Review of Dementia Medication guideline is pertinent in the context of polypharmacy in the latter stage of life and it is included here for ease of reference.

Please see the embedded guideline and flow-chart below.

![Protocol for Review of Anti-dementia Medicine](image)

![Flow-chart for the Review of Anti-Dementia](image)

e) Liquid Formulations

It is not uncommon in the care home setting to be asked to prescribe liquid formulations of medication if a patient is having difficulty taking tablets or capsules. Should a practice be asked to consider liquid formulations, it is important to consider whether the patient is having difficulty with swallowing and, if necessary, a Speech and Language Therapy swallowing assessment could be sought.

If it is thought that the patient does indeed have impaired swallowing, this is a poor prognostic indicator. In such circumstances, it is important to review the patient’s medication in line with sections 5 b to d above, rather than simply switching to liquid formulations which are usually more expensive, often significantly so.

Acknowledgements

The protocol group is grateful to a number of groups from whose work we have unashamedly borrowed.

In particular, we are grateful to Dr Martin Wilson and colleagues from NHS Highland for their kind permission to make liberal use of their guideline on polypharmacy in the frail elderly.

We have also made use of the National Prescribing Centre’s guide to medication reviews and the Royal College of General Practitioner’s gold standard framework.
We are also indebted to our Care of the Elderly colleagues in NHS Lanarkshire for the use of some of their guidelines and for their continued advice and support.

We would like to thank Mrs Alison Rees, Care Inspectorate pharmacy professional adviser, for her engagement and constructive comment.

**Appendices**

**Appendix 1 – Relative Efficacy**

The embedded document below provides further information on relative efficacy of various medications which are commonly used in the elderly. The relative efficacy of an item may help the clinician decide whether or not to continue that particular item.

**Appendix 2 – Prescribing and Polypharmacy Algorithm**

The embedded document below contains an algorithm which can be printed off and used as a summary of the guideline.

**References**

4. Orthostatic Hypotension Guideline. Care of the Elderly Department, Wishaw General Hospital. July 2010
5. Adults with Incapacity (Scotland) Act 2000.
10. Care Homes Falls Strategy. NHS Lanarkshire. 2011
11. NHS Lanarkshire Formulary. NHS Lanarkshire. August 2011

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