

Good Practice Guidance 9: Taking medicines on an empty stomach or with or after food in Care Homes

Key Points

- Some medicines must be taken with or after food.
- Failing to do this may cause gastrointestinal upset or reduce the effectiveness of the medicine.
- Whereas some medicines need to be taken just before meals or they will not work.
- For medicines that require administration on an empty stomach in order to be absorbed properly, residents should choose times of the day that are convenient to them.
- Once daily medicines are best taken before breakfast, but other good times include mid-morning, mid-afternoon and last thing at night. Bisphosphonates should not be taken at bedtime.
- Not following these instructions for the occasional dose is unlikely to be a problem, but doing it all the time may mean that the medicine does not work.

Why must some medicines be taken with or after food whereas others are taken on an empty stomach?

The labels on medicines, and on Patient Information Leaflets (PILs), sometimes state that a medicine must be taken “with or after food” whereas others state that medicines must be taken “before food” or “on an empty stomach”. Why is this and what will happen if residents do not follow these instructions?

It is possible to find out whether a medicine needs to be taken with food or on any empty stomach by checking the [electronic Medicines Compendium](#) (eMC) for the manufacturer’s patient information leaflet (PIL) or summary of product characteristics (SPC). The [British National Formulary](#) (BNF) also gives advice on this subject in Appendix 9.

Medicines taken with or after food

There are six main reasons why medicines may need to be taken with or after food:

- Medicines may cause nausea or vomiting
- Irritant medicines
- Medicines to treat conditions in the mouth and/or throat
- Medicines that are better absorbed with food
- Antidiabetic medicines
- Antacids in patients with meal-time symptoms

Medicines that may cause nausea or vomiting

These should preferably be taken after a meal to minimise this side effect.

Examples include:

- allopurinol.
- bromocriptine.
- co-beneldopa (Madopar®).

Irritant medicines

These may cause gastrointestinal disturbances such as indigestion, inflammation or ulcers. Although it is preferable to take these medicines with a meal, some biscuits, a sandwich or a glass of milk is usually sufficient.

Examples include:

- aspirin.
- Non-Steroidal Anti-Inflammatory Drugs (e.g. diclofenac, ibuprofen etc).
- steroids (e.g. prednisolone, hydrocortisone and dexamethasone).

Medicines to treat conditions in the mouth and/or throat

Mouthwashes, preparations for oral thrush (e.g. liquid nystatin, miconazole gel) and treatments for mouth ulcers must be used after meals. If given before a meal the process of eating food washes the medicine away too quickly and the medicine may not work.

Medicines that are better absorbed with food

Some medicines need food in the stomach to be absorbed into the bloodstream.

Examples of these include the HIV medicines ritonavir, saquinavir and nelfinavir.

Antidiabetic medicines

Medicines for diabetes are usually taken around meal times. This helps to reduce the high blood glucose levels which can occur after meals (hyperglycaemia) and avoids the subsequent very low blood glucose levels (hypoglycaemia). Some are taken before meals, some with meals and some afterwards. These details can be found in the Patient Information Leaflet or the resident's community pharmacist can be asked for advice.

Antacids in patients with meal-time symptoms

Indigestion or heartburn at mealtimes is caused by the stomach producing too much acid when food enters the stomach. Taking antacids immediately after, or in the middle of a meal may relieve these symptoms.

Medicines taken on an empty stomach

Most of the medicines that must be taken on an empty stomach are not absorbed into the bloodstream very well if there is food in the stomach. Some common examples include:

- flucloxacillin
- phenoxymethylpenicillin (penicillin V)
- oxytetracycline

These medicines should be taken an hour before food. This will allow them to be absorbed before any food arrives. If this is not done then the medicine will not be as effective, so residents should be encouraged to follow the instructions carefully.

The group of medicines called bisphosphonates, some of which are used to treat osteoporosis, are a particular problem, and even the smallest amount of food has a very significant effect. They include:

- **alendronic acid**
- **sodium clodronate**
- **disodium etidronate**
- **ibandronic acid**
- **risedronate sodium**
- **tiludronic acid**

Bisphosphonates should not be taken at bedtime. These medicines should generally be taken first thing in the morning before breakfast as follows:

Alendronic acid	Take at least 30 minutes before the first food, drink, or medicine of the day with a full glass of plain tap water.
Sodium clodronate	Take with a little fluid, but not milk, at least 1 hour before or 1 hour after food.
Disodium etidronate	Take at the mid-point of a 4-hour fast i.e. 2 hours before and 2 hours after food. Take with a glass of water.
Ibandronic acid	<i>Take after an overnight fast (at least 6 hours). Take at least 30 minutes (Bondronat®) or one hour (Bonviva®) before food or another medicine. Take with a full glass of plain water.</i>
Risedronate sodium	Take at least 30 minutes before the first food, drink (other than water) or medicine of the day. N.B. Risedronate 5mg

	and 30mg tablets (for daily use) can be taken at the mid-point of a 4-hour fast i.e. 2 hours before and 2 hours after any food, drink or other medicine, at any other time of the day. Take with at least one glass of plain water.
Tiludronic acid	Take at the mid-point of a 4-hour fast i.e. 2 hours before and 2 hours after food. Take with a glass of water.

Some medicines which actually operate in the gut itself will not work if they are taken after food.

Sucralfate, for example, 'coats' ulcers to heal them. It must be taken at least an hour before eating or it simply coats food instead and the treatment does not work.

Mebeverine is used to reduce bowel spasm at meal times. It should be taken 20 minutes before meals, to enable it to start working before food arrives.

Similarly, **sodium cromoglicate** capsules are taken before meals to minimise the effects of certain types of food allergy.

For medicines that require administration on an empty stomach in order to be absorbed properly, residents should choose times of the day that are convenient to them.

Once daily medicines are best taken before breakfast, but other good times include mid-morning, mid-afternoon and last thing at night. Bisphosphonates should not be taken at bedtime

Adapted from UKMI Medicine Q&A 337.1 Why must some medicines be taken on an empty stomach? and Q&A 336.1 Why must some medicines be taken with or after food?

Further Information

- Further information on managing medicines in care homes is available in Outcome 9 of the [CQC Essential Standards of Quality and Safety](#).
- Further information on [The handling of medicines in Social Care](#) can also be found on the Royal Pharmaceutical Society website: www.rpharms.com
- The Nursing and Midwifery Council (NMC) provides guidance and [advice on a number of topics](#) which is available on their website; www.nmc-uk.org

The above links are made available solely to indicate their potential usefulness to users. The user must use their own judgment to determine the accuracy and relevance of the information they contain.

Oxfordshire CHUMS Working Group & Medicines Management Team