Consensus guideline on the medication management of adults with swallowing difficulties

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Consensus guideline on the medication management of adults with swallowing difficulties

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Introduction

Ref 1, p411–412

A surprisingly high proportion of adults are unable to swallow tablets or capsules as highlighted in a survey of patients aged over 60 years carried out by community pharmacists; almost 60% of the 792 respondents experienced difficulty in swallowing medication in this form.[1] A similar proportion reported opening capsules or crushing tablets to make ingestion easier, unaware of the negative effect it may have on the activity of the drug.

Doctors are often unaware that their patient has an issue with the formulation of their medicine. It is important, therefore, for prescribers and other healthcare professionals to assess if the patient has swallowing difficulties, which may affect adherence.

Ref 1, p412

Swallowing difficulty, or dysphagia, can occur in any age group although it is most common in older people since they are more prone to the causative diseases and age-related changes in salivary gland function.[1] Up to one-third of residents in nursing homes may experience difficulty swallowing, resulting in the common practice of crushing or opening of medicines[2,3]

Ref 2, p33, 35; Ref 3, p2

Patients with swallowing difficulties present a management challenge since:

- Therapeutic outcomes may be affected in those not adhering to prescribed medications
- Tablets or capsules may cause choking with consequent risk to the airway
- There may be an increased risk of a tablet or capsule becoming lodged in the patient's throat or oesophagus, resulting in incorrect drug dispersal and subsequent changes in efficacy and/or tolerability, and possible oesophageal damage
- Altering the formulation of a medicine has important medical and legal implications (see Boxes 1 and 2)

The aim of this guideline on the medication management of adults with swallowing difficulties is to promote best practice through:

- Raising awareness among prescribers and healthcare professionals of the high prevalence of swallowing difficulties, particularly in older people
- Promoting a multidisciplinary approach to the management of such patients
- Signposting appropriate resources available to prescribers
- Enabling prescribers to make clinically and legally appropriate decisions
- Raising awareness of the risks associated with altering solid-dose oral formulations

Box 1: Definitions

Solid-dose oral formulation	Tablet or capsule (buccal or dispersible tablets are not considered solid)
Altering a solid-dose oral formulation	Crushing a tablet, opening a capsule, sucking or chewing a medication that is not designed to be sucked or chewed
Formulations that can be crushed/chewed	Tablets described as crushable, dispersible or chewable

Identifying patients with swallowing difficulties

Improved communication

Ref 4, p28 Ref 5, p66

- Healthcare providers should always ask the patient or carer whether they have difficulty swallowing medication,[4,5] and assess the reasons for this
- Doctors should ensure that known swallowing difficulties are taken into consideration when prescribing medication

Box 2: Legal implications of altering a solid-dose oral formulation

Ref 6, p229

- To protect patients, the law requires that the:[6]
  - Right medicine is given to the
  - Right person, at the
  - Right time, using the
  - Right dose, in the
  - Right form
- Products should be prescribed in accordance with their manufacturing authorization whenever possible
- When products are used outside their licence (e.g. crushing non-crushable tablets) a greater liability rests with the individual prescriber, dispenser and/or person responsible for the provision or administration of the medication
- Liability can be minimized by:
  - Clear documentation of the reason for altering the medicine
  - Following evidence-based, safe, effective practice
  - Obtaining consent from the patient (in England and Wales, doctors may act in a patient's best interest if the patient is incapable of providing consent [in accordance with the Mental Capacity Act 2005]; in Scotland, doctors must act according to requirements of Part 5 of the Adults with Incapacity [Scotland] Act 2000)
- Prescribing decisions that fall below the accepted standard can lead to:
  - Civil liability
  - Criminal liability
  - Professional liability
  - Breach of employment contract

- Community pharmacists should assess the suitability of medication formulations for individual patients, and report swallowing difficulties to the prescriber
- Carers should inform the patient's doctor if they know or suspect that swallowing medication is an issue

Clinical evaluation

- The causes of swallowing difficulties are numerous, manifesting as mechanical obstruction, or affecting the muscles or nerves involved in swallowing
- Consider individual investigation and management in the following conditions:
  - Neurological conditions (e.g. stroke, progressive neurological disease)
  - Cancer (e.g. head, neck, oesophageal cancer)
  - Cardiac and respiratory disease
  - Physical/learning disabilities

Ref 4, p26

- Symptoms and signs indicating that an individual may experience difficulty swallowing medication include:[4]
  - Difficult or painful chewing or swallowing
  - Dry mouth (xerostomia) (see Box 3)
  - Difficulty controlling food or liquid in the mouth
  - Coughing/choking before, during or after swallowing
  - Hoarse/wet voice quality
  - Feeling of obstruction (e.g. globus sensation)
  - Unexplained weight loss
  - Regurgitation of undigested food
  - Recurrent chest infections (resulting from aspiration)

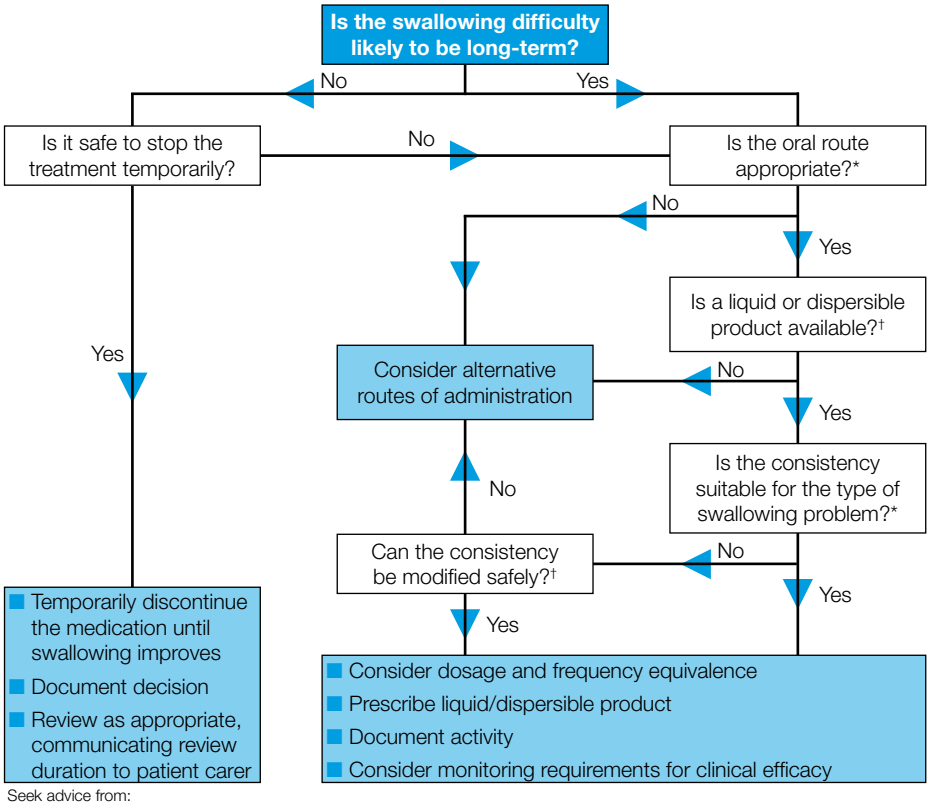
N.B. For a full list of symptoms and signs of dysphagia, see the NICE guideline on nutrition support in adults[4] Ref 4, p26

- Specialist assessment (e.g. speech and language therapy, gastroenterology) is required for patients with any clinical condition that may require them to take liquid nutritional supplements or receive medicines by enteral feed tubes
- Oral medication usage may also be complicated in patients with psychological conditions, such as:
  - Learning disability
  - Severe mental illness
  - Dementia
- In certain individuals, there may be a personal preference against taking certain medicines

Box 3: Drugs that commonly cause dry mouth

- Tricyclic antidepressants (e.g. amitriptyline, dosulepin)
- Other types of antidepressants (e.g. moclobemide, fluoxetine)
- Antihistamines (e.g. chlorphenamine, promethazine)
- Antimuscarinic drugs (e.g. hyoscine, ipratropium, tiotropium)
- Certain antipsychotics (e.g. chlorpromazine, haloperidol)
- Certain beta-blockers (e.g. carvedilol)
- Certain diuretics (e.g. amiloride, triamterene)

Algorithm for the medication management of adults with swallowing difficulties



Seek advice from:

* Speech and language therapist +/– occupational therapist, physiotherapist, dietician (if involved in dysphagia management)

† Supplying pharmacist and/or Medicines Information Centre

Management

Management of patients with evidence of swallowing difficulty

The algorithm above assumes that the patient has been assessed thoroughly, and non-adherence to medication due to a problem with the administration routine has been ruled out.

Alternative routes of administration

- Check with pharmacist and/or Medicines Information Centre to ascertain whether alternative formulations of the medication in question are available, for example:
  - Transdermal
  - Parenteral/injectable
  - Buccal
  - Rectal
  - Intranasal
  - Sublingual

- If a suitable formulation is not available:
  - For patients who are not able to take medicines orally:
    - Consider prescribing an alternative medicine or discontinuing the treatment
  - For patients able to take medicines orally:
    - Consider prescribing an alternative medication
    - If no alternative exists, altering a solid-dose oral formulation may need to be contemplated (see below)

Switching to liquid or dispersible oral formulations

- Changing the formulation of a product may alter its bioavailability, efficacy and/or side-effect profile
  - Do not assume that the dose of a liquid/dispersible formulation will be the same as the solid oral form of a particular product; check dose equivalence
  - When switching from a sustained-release to a standard-release form of a medicine, dose frequency will need to be adjusted accordingly
  - Evaluate efficacy and side effects frequently

- Dispersible tablets may not give an even solution so part dosing is potentially inaccurate

- Some medicines are available as non-licensed liquid 'specials' or extemporaneous preparations, which are formulated to meet the requirements of a doctor for specific use by an individual patient
  - Dose uniformity or reproducibility may not have been tested for extemporaneous preparations, or some 'specials'
  - To minimize the variability of supply, the product specification should be documented: the formulation, method of preparation, and strength should be noted

- For a comprehensive list of products available in liquid or dispersible form, see www.swallowingdifficulties.com

Ref 7, p43 (table 1)

Box 4: Drugs in solid-dose oral form that should never be altered (i.e. through crushing, chewing or opening) without authorization[7]

Drug type	Notes/abbreviations	Considerations	Examples
Modified release	Frequently identifiable by two letters such as m/r, LA, SA, CR, XL or SR at the end of the name. Words such as 'Retard', 'Slow' or 'Continus' in the title are sometimes used	Should not be altered because: The medicine is designed to be released over prolonged period. The mechanism for slowing release may be damaged. Patient receives full dose quicker than expected and subsequently little or no dose at all for a period of time.	Verapamil (Securon SR) Propranolol (Inderal LA) Felodipine m/r (Plendil) Tramadol (Zydol SR) Morphine (MST Continus)
Enteric coated	Usually identifiable by the two letters EN or EC at the end of the name	When coating is added to protect the stomach, co-administer a suitable gastro-protective product if the form is altered; but consider potential for drug interactions.	Aspirin (Nu-seals) Naproxen (Naprosyn EC)
		When coating is designed to deliver the drug beyond the stomach, crushing may result in the medicine not reaching its intended target.	Sulphasalazine (Salazopyrin EN)
Hormonal, cytotoxic or steroidal		Drug may be dispersed in the air if crushed, and the administrating nurse or carer may be exposed to the drug inadvertently;[8] consider risk of exposure if pregnant.	Tamoxifen (Nolvadex) Methotrexate (Maxtrex) Dexamethasone Oral contraceptives Hormone replacement therapy
Film and sugar coated	Usually identifiable by the two letters f/c or s/c at the end of the name	Disruption of the coating may result in rapid degradation of the drug, poor tasting medicine and may also cause skin irritation in the patient or carer.	Quinine sulphate Ibuprofen

Ref 8 p132

(Adapted from Wright. *Nursing Standard* 2002; **17**: 43–45)

Continuity of care

- To ensure continuity of care, e.g. for patients moving from secondary to primary care:
  - Any changes to a dosage formulation should be noted, and this information clearly communicated on to subsequent prescribers and other healthcare professionals
  - Swapping between liquid formulations, particularly liquid 'specials' (which do not have bioavailability data), should be avoided

Altering a solid-dose oral medication

- Altering a solid-dose formulation should be reserved as last-resort and practised only after appropriate advice has been sought from a pharmacist and/or Medicines Information Centre

- Certain types of drug should never be altered without advice from a pharmacist and/or the manufacturers due to the changes these actions impose on the pharmacokinetics and pharmacodynamics of the drug (see Box 4)

- The outcome of such pharmacological changes can be accentuated in older people due to age-related differences in pharmacokinetics

- Prescribers should also consider:
  - How stable the product is once opened to the environment (see Box 5)
  - Whether the safety of the person preparing or administering the product would be put at risk
    - Alteration of a solid-dose oral formulation should be considered under Control of Substances Hazardous to Health (COSHH) regulations since there may be an increased exposure to chemical components
    - The person may have a hypersensitivity to the product or its constituents
  - Whether the dose preparation could be accurately repeated
  - The amount and type of diluent and/or thickening agents that would be used
  - Whether the results would be unpalatable

- Variation in the amount of drug reaching the system due to formulation change may impact efficacy and the potential for side effects, particularly in drugs with a small therapeutic window including:
  - Phenytoin
  - Digoxin
  - Carbamazepine
  - Theophylline
  - Sodium valproate

Box 5: Examples of drugs that are unstable once open to the environment[9]

Ref 9, p77, 79, 80

- Amlodipine
- Atorvastatin
- Cabergoline
- Glyceryl trinitrate
- Isosorbide mononitrate
- Isosorbide dinitrate
- Metronidazole
- Nifedipine
- Pergolide
- Topiramate

(Adapted from Church and Smith. *The Pharmaceutical Journal* 2006; **276**: 75–81)

Administering medications via PEG/PEJ/NG tube

- Medication management of patients with percutaneous endoscopic gastrostomy (PEG), percutaneous endoscopic jejunostomy (PEJ) or nasogastric (NG) tubing requires careful consideration since most products are not licensed for administration via this route

- The medication needs of patients should be reviewed if they are switched to enteral feeding, as certain medications may no longer be required

Ref 10

- The British Association for Parenteral and Enteral Nutrition (BAPEN) provide a practical guide for administering drugs via enteral feeding tubes[10]

- Prescribers should seek advice from a Medicines Information Centre before prescribing drugs to be administered via a feeding tube

- Medical considerations:
  - Ensure that there is a functional and accessible gastrointestinal tract
  - There is a risk of tube blockage, and drug–tube interactions
  - The medicines may interact with food
  - A drug–drug interaction may occur if more than one medicine is administered at a time
  - As the formulation is altered:
    - The activity of the product may be altered
    - Variability may occur in the dose administered

- Recommendations:
  - Administration of medicines through a feeding tube should only be carried out by suitably trained staff, under an agreed written policy, and the practice should be documented
  - Select a drug formulation that is appropriate for tube administration
  - Ensure that the feed and drug regimens are practical

Ref 11 p2

  - Where possible a once daily preparation should be used to reduce the number of manipulations, but this must be by using long acting drugs not sustained release preparations[11]
  - For drugs that need to be given on an empty stomach, the feed should be stopped for the appropriate duration before and after the medication is administered
  - Flush the tube before and after giving medications (with ≥30 ml water)
  - If more than one drug is required, give drugs separately and flush between administrations (with ≥10 ml water)
  - Drug-enteral feed interactions should also be considered
  - Increase monitoring for clinical efficacy and adverse events

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