



Medication Matters

Uchu Meade

In a RPS approved Consultant Pharmacist role: Intestinal Rehabilitation

St Mark's Hospital

May 2025



NHS

National Reference Centre
for Severe Intestinal Failure





Aims of the session

- Pharmacokinetic
 - ❑ What is this?
 - ❑ Why is this important for patients?
 - ❑ Why do we use different routes to administer drugs?
- Classification of medications
 - ❑ Prescription only medications
 - Prescription costs
 - ❑ Over the counter medications
- Medication in pregnancy and breastfeeding
- Where to find information

The Fluffy Bowel



Length of the small bowel

- Duodenum ~ 20 cm to 25 cm
- Jejunum ~ 2.5m
- Ileum ~ 3m

Pharmacokinetic





Pharmacokinetic

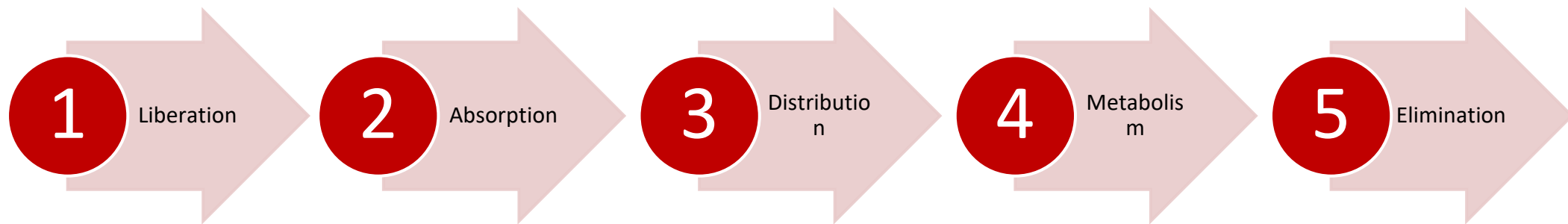
What is this?

‘The movement of medication within the body’

- All medication are designed to target certain cell and receptors within the body
- Sufficient amounts of an active form of the medication must reach the site of action/ target receptors to elicit a pharmacological response
- Some of the sites of action/ target receptors are found in the gastrointestinal (GI) tract

Pharmacokinetics

LADME



Liberation and dissolution must happen before absorption can occur

- Early/ proximal in the bowel
- Readily able to disintegrate and form a solution



Pharmacokinetic

Why is this important for pouch patients?

The most common route of medication administration is the oral route:

- Tablets, Capsules and Liquids

So will need:

A = Absorption from the GI tract

The majority of medications are absorbed from the jejunum (The 1st part of the small bowel)

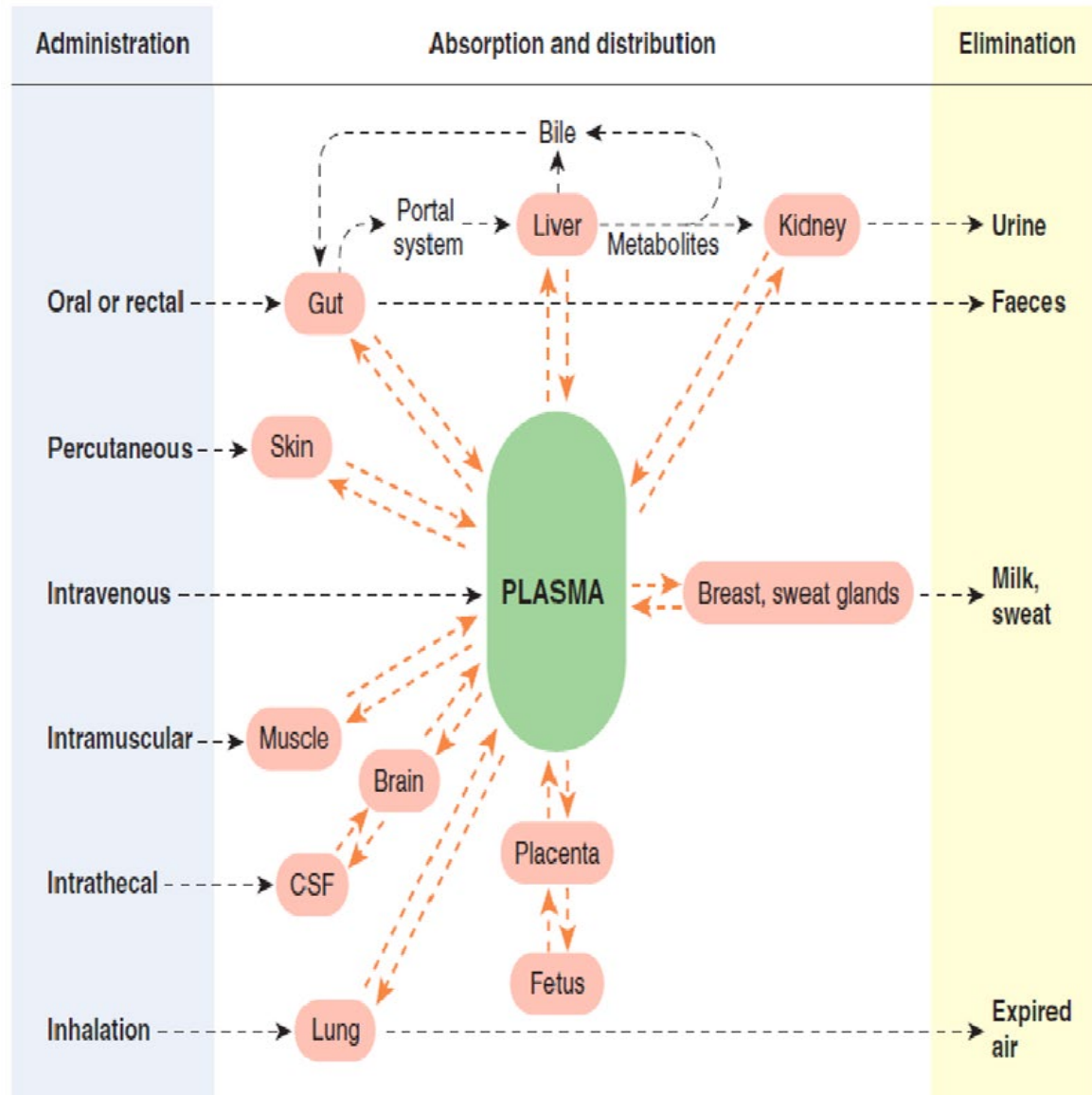
Absorption can be affected by:

- ❑ Surface area
- ❑ Transit times of the stomach and small bowel
- ❑ Quality of the bowel

Oral Bioavailability

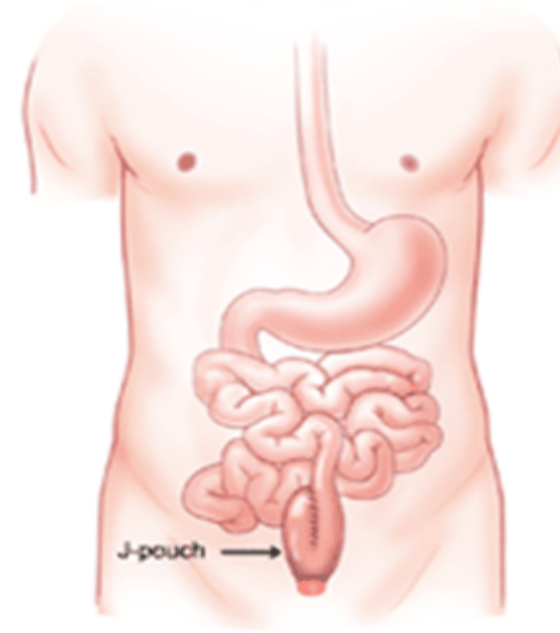
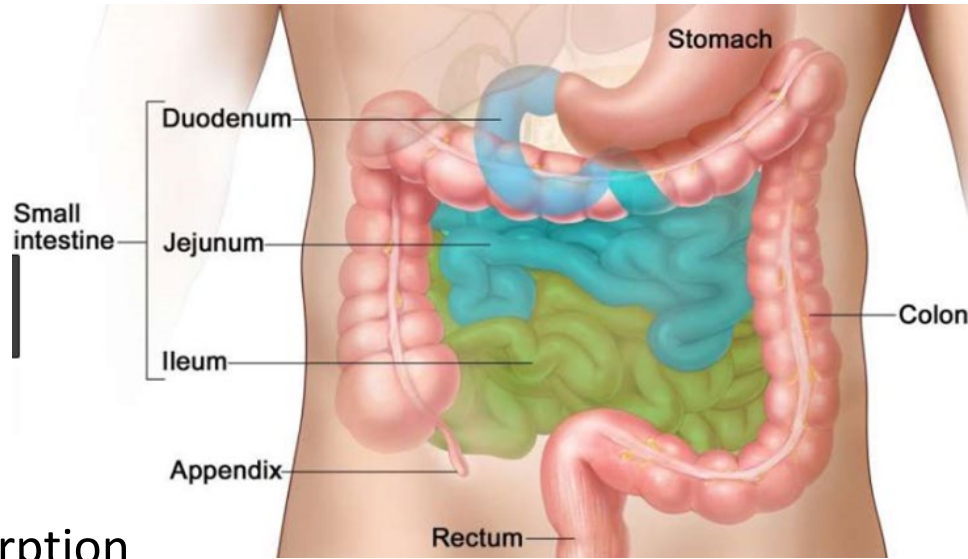
- ❑ The amount of medication that reaches the systemic circulation
- ❑ Based on healthy individuals

Demonstrate LADME



Pharmacokinetic

Why is this important for pouch patients?



A = Absorption

- ✓ Oral Bioavailability
- ✓ The amount of medication that reaches the systemic circulation
- ✓ Sufficient amounts of an active form of the medication reach the site of action to elicit a pharmacological response

Caution- preparations designed to release medication in the colon, Extended-Release, Controlled-Release and Modified-Release Formulations




Important to explain your GI anatomy to anyone prescribing you medication

Or

I have a

Or

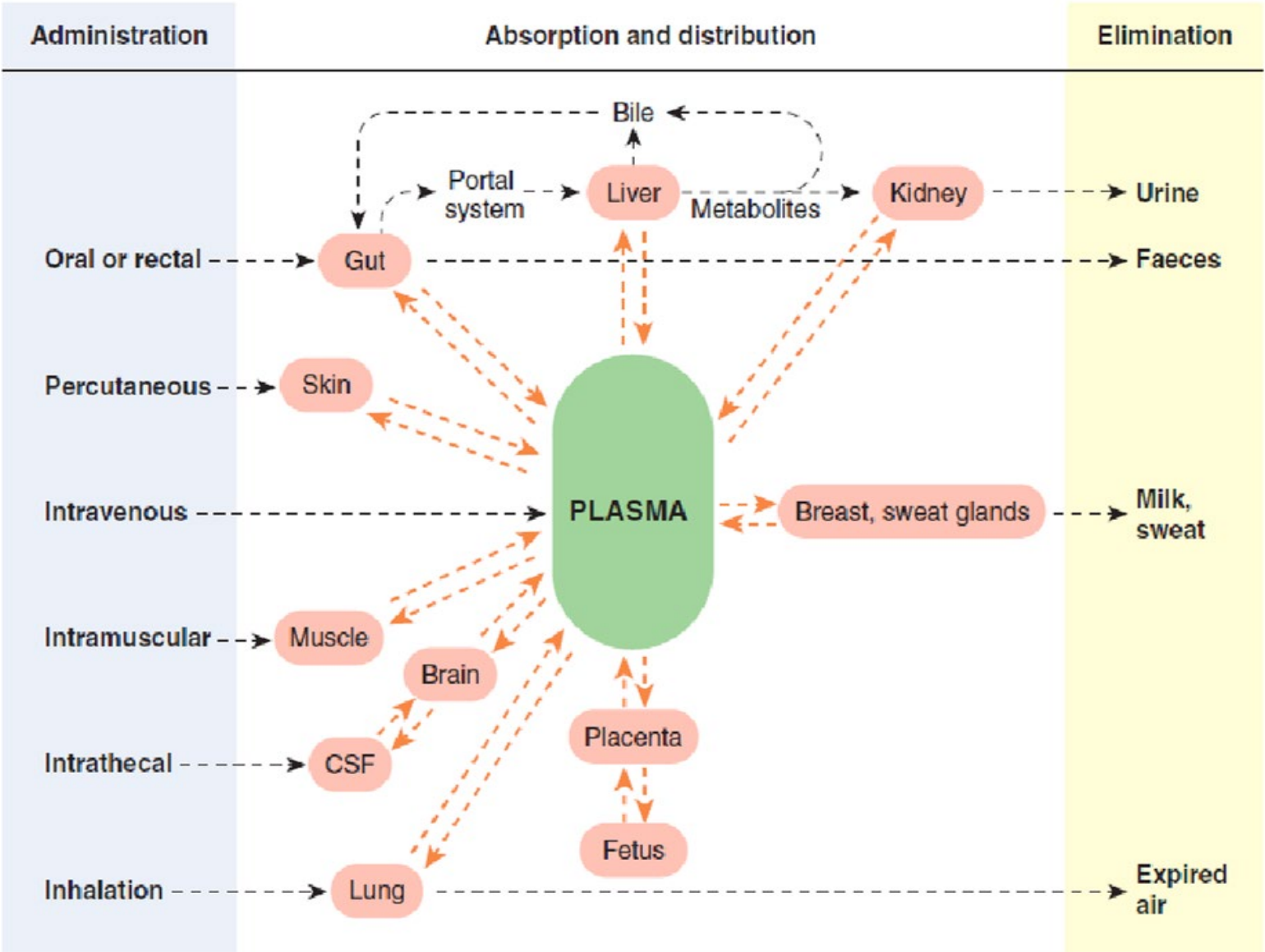
Ask them to look at your records or contact your team



Your healthcare professionals will monitor your clinical outcomes to all prescribed medicines and alter as needed

- ❑ Higher doses
- ❑ Shorter/ longer durations
- ❑ Alternative routes

The Main Routes of Drug Administration





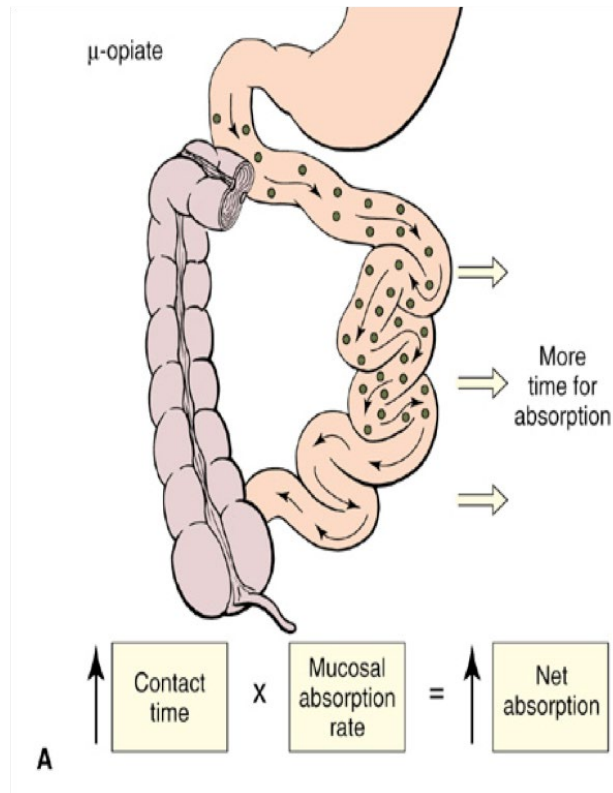
Classification of Medications



Prescription Only Medications (POMs)

Can only be prescribed by a healthcare professional with the relevant qualifications

Loperamide and Codeine: How do they work?



Acts on gut receptors

To reduce bowel movement

Allowing more contact time

So, increasing absorption

Resulting in:

Reduces bowel frequency & quantity

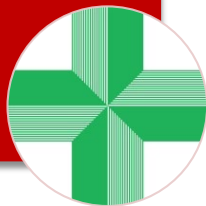
Thicker consistency of stools or stoma outputs

Loperamide & Codeine



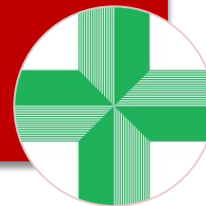
- Doses: Up to 16mg four times a day
- More favorable than codeine (no sedation)
- Very little absorption- GI action
- Capsules – tablets – ~~liquid~~ – melts

Loperamide



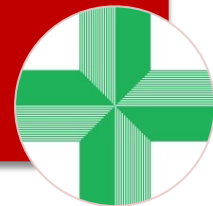
- Doses: 30-60mg four times a day
- Exceeding maximum doses not recommended
- Pain relief
- Combination with paracetamol

Codeine



- Used when loperamide alone is insufficient
- Better outcomes when used together

Combination





Loperamide and Codeine: how to take

□ How to take

- ❑ 30minutes to 1 hour before meals
- ❑ Allows drugs to work before eating/ drinking

□ Side effects

- ❑ Balance with higher doses
- ❑ Loperamide: abdominal pain, bloating, nausea, flatulence
- ❑ Codeine: drowsiness, headaches, low blood pressure, nausea & vomiting, can cause dependance

Loperamide: 8 (16mg) in 24hrs label- not for you 😊

MHRA drug safety update

Loperamide 26th September 2017¹

A European review of worldwide spontaneous reports identified 19 cases suggestive of cardiac rhythm disorders associated with loperamide abuse and misuse

- ❑ QT prolongation
- ❑ Torsades de pointes
- ❑ Cardiac arrest

Doses

- ❑ High or very high doses
 - ❑ 40-80mg up to 800mg (20- 400 tablets) daily

Indication

- ❑ As a drug of abuse
- ❑ Self-treatment of opioid withdrawal



As a result, all manufacturers have been asked to update product info to include warnings of cardiac events associated with high use

¹) <https://www.gov.uk/drug-safety-update/loperamide-imodium-reports-of-serious-cardiac-adverse-reactions-with-high-doses-of-loperamide-associated-with-abuse-or-misuse>

British Intestinal Failure Alliance (BIFA) Position Statement

The use of high dose loperamide in patients with short bowel associated intestinal failure.

Authors**: Jeremy Nightingale, Uchu Meade and the BIFA committee

** competing interests: None

April 2018 | Updated March 2024


Summary

There are reports of serious cardiovascular events (QT prolongation, torsades de pointes, and cardiac arrest/deaths) associated with high or very high doses of loperamide when used as a drug of abuse or for self-treatment of opioid withdrawal (1-21). Reference 2-21 were used by the [Medicines and Healthcare products Regulatory Agency](#) (MHRA) to support their 2017 medication safety alert (1). These reports are extremely important to those healthcare workers who manage patients with a short length of bowel (often having a stoma or enterocutaneous fistula) and taking higher than the recommended doses of loperamide. This document outlines the problems reported and suggests guidance when using high doses of loperamide in patients with a short bowel.

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Vitamin B12 Cyanocobalamin

A = Absorption from the end of the ileum

So need to give via an intramuscular injection

1mg every 1-3 months from GP or hospital after a loading dose

Folic acid may be added

Tests: Serum Vitamin B12 (Active B12 (Holotranscobalamin), Methylmalonic Acid (MMA) & Homocysteine)

Vitamin D

A = Absorption from the jejunum

Oral: Colecalciferol 800-1000 units once a day weekly dose 20,000 units

intramuscular injection: Ergocalciferol 300 000 units 1-3 months from GP or hospital

Levels to monitor absorption of the drug

Complete vitamin and mineral supplements

Pouchitis

J. P. Segal et al.

1st line

Ciprofloxacin
Metronidazole
2 weeks

2nd line

Tinidazole
Rifaximin
4 weeks

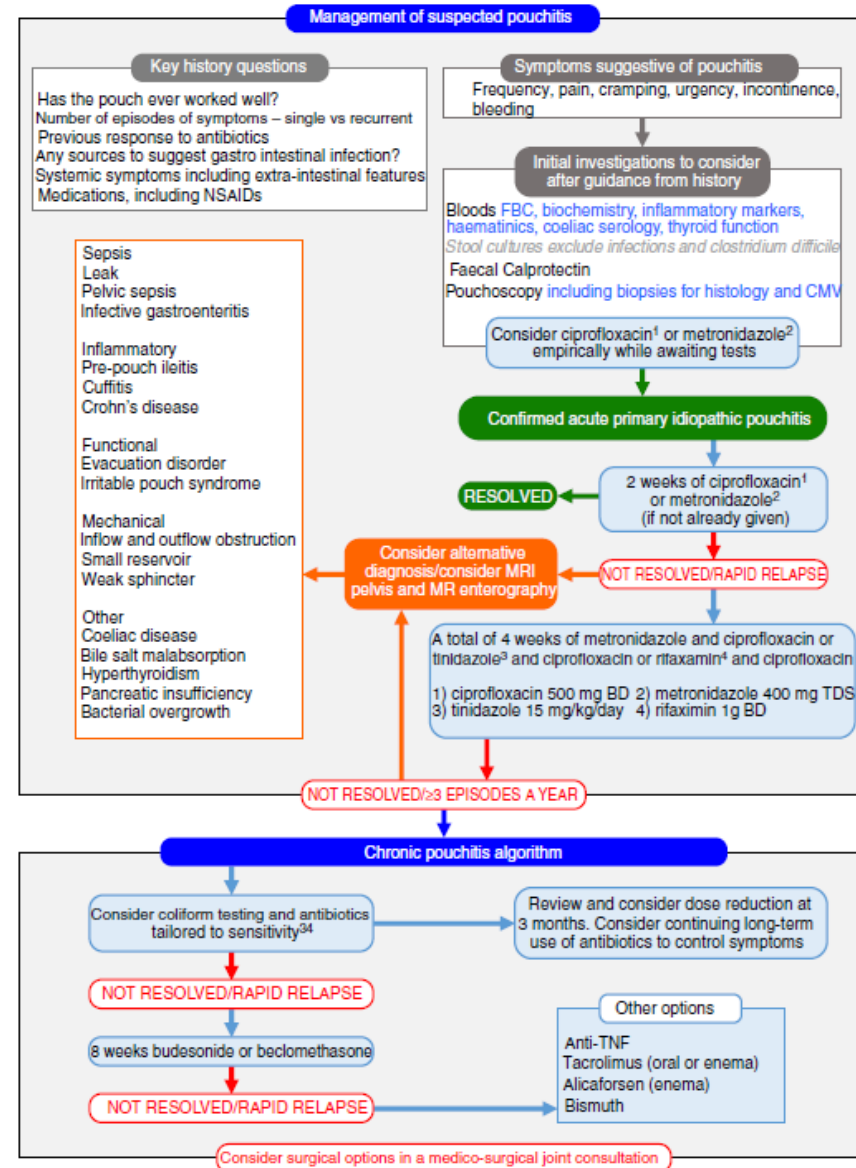


Figure 4 | Management algorithm for suspected pouchitis.



Ciprofloxacin

Driving: May impair performance of skilled tasks (e.g. driving); effects enhanced by alcohol

Absorption of ciprofloxacin reduced by oral antacids, calcium, iron, zinc salts, dairy products
(give at least 2 hours before or 4 hours after ciprofloxacin)

Metronidazole

Avoid alcohol during course and for 5 days after stopping

Tinidazole

Same family of medication as metronidazole

Possible interaction with alcohol

Rifaximin

Action in the GI tract very little oral absorption to the plasma

How to take antibiotics

- Take regularly
- Take at the same time each day
- Ensure the timing fits in with your lifestyle
- Don't miss doses
 - ▣ Even if you are feeling better
- Finish your course

- To avoid antimicrobial resistance and relapse
- Which could lead to treatment escalation



Probiotics: VSL#3®

- No longer available on prescription via the GP or hospital
 - ❑ Can buy from pharmacies and health food stores

Powder:

containing 8 strains of live, freeze-dried, lactic acid bacteria
Contains traces of soya, gluten, and lactose



Prescription charges

<http://www.nhs.uk/NHSEngland/Healthcosts/Pages/Prescriptioncosts.aspx>

1st April 2025

£9.90 per item

The same item e.g., drug, strength and formulation

Local and hospital pharmacies

Who is exempt?

have a specified medical condition and
have a valid medical exemption
certificate (MedEx)



Medical exemptions

NOTE Patients who don't have to pay must fill in parts 1 and 3. Those who pay must fill in parts 2 and 3. Penalty charges may be applied if you make a wrongful claim for free prescriptions. If you're not sure about getting free prescriptions, pay and ask for an NHS receipt FP57. You can't get one later. The FP57 tells you about getting a refund.

Part 1 The patient doesn't have to pay because he/she:

A	<input type="checkbox"/>	is under 16 years of age
B	<input type="checkbox"/>	is 16, 17 or 18 and in full-time education
C	<input type="checkbox"/>	is 60 years of age or over
D	<input type="checkbox"/>	has a valid maternity exemption certificate
E	<input checked="" type="checkbox"/>	has a valid medical exemption certificate
F	<input type="checkbox"/>	has a valid prepayment certificate
G	<input type="checkbox"/>	has a valid War Pension exemption certificate
L	<input type="checkbox"/>	is named on a current HC2 charges certificate
X	<input type="checkbox"/>	was prescribed free-of-charge contraceptives
H	<input type="checkbox"/>	*gets Income Support (IS)
K	<input type="checkbox"/>	*gets income based Jobseeker's Allowance (JSA (IB))
M	<input type="checkbox"/>	*is entitled to, or named on, a valid NHS Tax Credit Exemption Certificate
S	<input type="checkbox"/>	*has a partner who gets Pension Credit guarantee credit (PCGC)

***Name:** _____ **Date of Birth:** ____/____/____ **Age:** ____ **Sex:** ____

***Print the name of the person (either you or your partner) who gets IS, JSA (IB), PCGC or Tax Credit.**

Declaration
For patients who do not have to pay
I declare that the information I have given on this form is correct and complete. I understand that if it is not, appropriate action may be taken. I confirm proper entitlement to exemption. To enable the NHS to check I have a valid exemption and to prevent and detect fraud and incorrectness, I consent to the disclosure of relevant information from this form to and by the Prescription Pricing Authority, the NHS Counter Fraud and Security Management Service, the Department for Work and Pensions and Local Authorities.

Part 2 I have paid £ _____ **Now sign and fill in Part 3**

Part 3 Cross one box I am the patient ☐ patient's representative ☐

Sign here _____ **Date** ____/____/____

Print name and address _____

- **A permanent fistula (for example, a laryngostomy, colostomy, ileostomy or some renal dialysis fistulas) requiring continuous surgical dressing or an appliance**
Cancer, including the effects of cancer or the effects of current or previous cancer treatment
- A form of hypoadrenalism (for example, Addison's disease) for which specific substitution therapy is essential
- Diabetes insipidus or other forms of hypopituitarism
- Diabetes mellitus, except where treatment is by diet alone
- Hypoparathyroidism
- Myasthenia gravis
- Myxoedema (hypothyroidism requiring thyroid hormone replacement)
- Epilepsy requiring continuous anticonvulsive therapy
- A continuing physical disability that means you cannot go out without the help of another person (temporary disabilities do not count, even if they last for several months)

What about other chronic conditions requiring regular medications?

Prepayment cards

Prescription Prepayment Certificates (PPC)



- Available from community pharmacies, GP surgeries, online and by phone
- 12 month PPC - 10 monthly direct debit instalment payments

PPC type	Suitable if you pay charges for	Prices from 1 May 2024
3-month standard PPC	4 or more items in three months	£32.05
12-month standard PPC	12 or more items in a year	£114.50

HRT Prescription Prepayment Certificate

The cost of the HRT Prescription Payment Certificate (HRT PPC) has also been increased from 1 May 2024. The HRT PPC was introduced to help reduce the cost of certain Hormone Replacement Therapy (HRT) medicines.

PPC type	Suitable if you pay charges for	Price from 1 May 2024
12-month HRT PPC	More than two eligible HRT medicines in 12 months	£19.80



Over the counter medication (OTC)

No prescription needed

Pharmacy only (P)

Must be sold under the supervision of a pharmacist

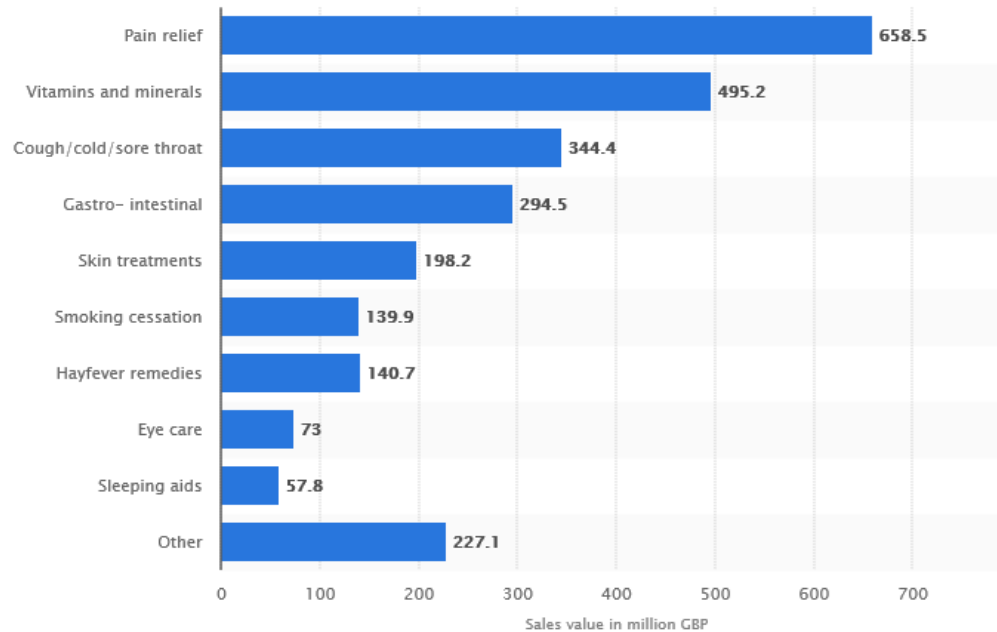
General Sales List (GSL)

No pharmacist supervision needed

Indication of use and pack size tend to be restricted

Over the counter medication (OTC) sales 2020

Lockdown led to a surge in demand



Over The Counter (OTC) medication

Pain Relief

Topical
Oral

Vitamins, minerals and anti tiredness

Iron levels
Absorption

Coughs, colds and sore throats

Liquids
Decongestants

Gastrointestinal

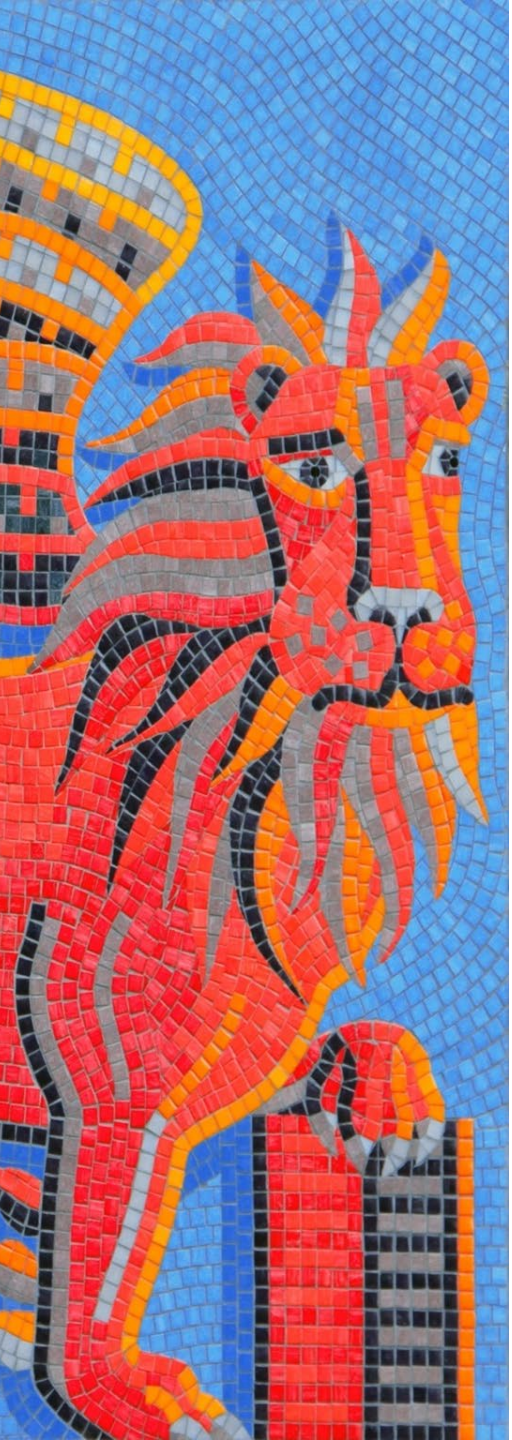
Indigestion remedies
Laxatives
Diarrhoea treatments

Skin

Infections
Dry skin conditions

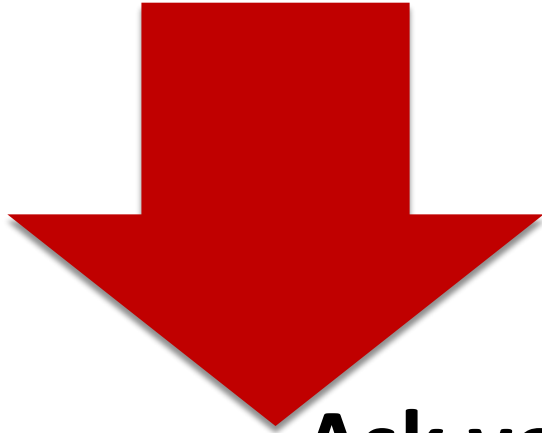


Can cause ulceration in the pouch with potential bleeding



Pregnancy and Breastfeeding

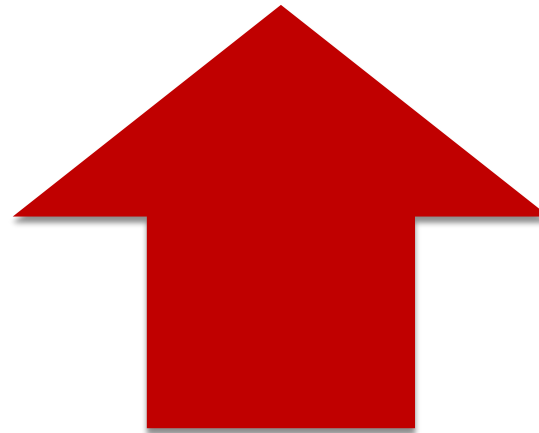
Pregnancy and Breastfeeding



Risks

Ask your medical team

Benefits



Safety data: Pregnancy and Breastfeeding

- No clinical trials (ethical issues)
- Animal data
 - ❓ Sometimes hard to apply to human models
 - ❓ Many factors to be taken into consideration
- Use general and basic pharmacology principals
- Look at your condition and prognosis
- Healthcare professionals will help you make the right choice



Where to find information

- Patient Information Leaflets (PILs)
 - ❑ Found inside the medicine box
- Doctors, Nurses and Pharmacists
 - ❑ Hospital medicines information teams
- Online
 - ❑ NHS sites
- Charities supporting patients



Thank you for listening

