



Ileostomy & Internal Pouch  
Association

An anatomical illustration of the human urinary system. The kidneys are shown in a light purple/pink color, with their internal structures like the renal cortex and medulla visible. The ureters are shown in a light orange color, leading down to the bladder. The central part of the image shows the spine and the abdominal cavity in a light blue color, with the kidneys positioned on either side of the spine. The overall background is a gradient of blue and purple.

# Maintaining Kidney Health with an Ileostomy or Internal Pouch

Produced in association with Shelagh Bickerton, Lead Clinical Nurse Specialist for Acute Kidney Injury

# Maintaining Kidney Health with an Ileostomy or Internal Pouch

## What do your kidneys do?

The kidneys are bean-shaped organs, about the size of your fist, which sit in the middle of your back.

They play a vital role in keeping you healthy.

Their main functions are to:



filter blood and clean it of toxins and waste products



manage blood pressure



balance fluid and hydration levels



control salts (e.g potassium, sodium, magnesium) and mineral levels



make red blood cells, which carry oxygen around the body

In order for the kidneys to function well, they need:

- » an adequate blood pressure and blood volume
- » to be healthy, rather than damaged or inflamed by disease processes
- » to drain urine freely through a functioning urinary tract, without obstruction.

Healthy kidneys produce around

two litres of urine per day.

## What is Acute Kidney Injury?

In Acute Kidney Injury (AKI) there is a sudden deterioration in kidney function that happens over a period of hours or days. It is thought to occur in 20% of all emergency admissions to hospital, many of which could be avoided with the right care and early treatment. In most cases kidney function

will fully recover once AKI is treated, but for some, it can lead to the development of Chronic Kidney Disease (CKD) which is associated with an increased risk of cardiovascular complications such as heart disease and stroke.

## Common causes of Acute Kidney Injury

Acute Kidney Injury can be caused by:

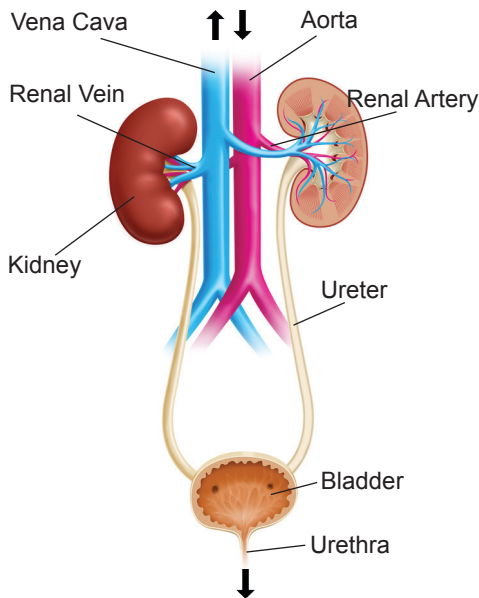
- » dehydration
- » low blood pressure
- » severe infection
- » a reaction to a medication
- » kidney stones
- » enlarged prostate
- » pelvic masses (such as a benign or malignant tumour or abscess).

## If you have an ileostomy or internal pouch

Having an ileostomy or an internal pouch is one of the risk factors for the development of AKI. This is because you are at a higher risk of developing dehydration and low blood pressure when high, watery output occurs. Studies have shown that 30% of all people with ileostomies will experience high output at some point with 20% being admitted to hospital due to AKI.

## Causes of high output (more than 1.5 litres/24 hours)

- » newly formed stoma/pouch - it is not uncommon to experience high output as the remaining bowel adjusts
- » bowel affected by disease or treatment (for example, gastroenteritis, food intolerance, inflammatory bowel disease, chemo-immunotherapy/ antibiotics)
- » partial bowel obstruction
- » non-compliance with diet/ medications such as loperamide
- » excess intake of low concentration fluids such as water (see IA's leaflet '*Staying Hydrated*' for more details).



## Consequences of high output

- » dehydration causing an AKI – low blood pressure and low blood volume so that the kidneys do not receive the blood supply they need to function well
- » medications may not be absorbed adequately due to the fast transit time through the gut
- » under nourishment/weight loss
- » salt imbalances which can cause heart rhythm problems
- » physical consequences - increased frequency of emptying bag or pouch/risk of leaks caused by watery stool and thus potential of sore skin
- » psychological consequences – anxiety/depression/loss of confidence.

## What can you do to protect your kidneys?

### > Step 1: Prevention of High Output

Compliance with low-fibre diet/ use of loperamide (tablets or melts) to manage consistency of stoma output; maintain hydration by drinking 6-8 cups of suitable fluid per day (see IA's leaflet 'Staying Hydrated' for more information).

### > Step 2: Understanding your risk factors for AKI

Having a stoma or a pouch is not the only risk factor for AKI. There are other ones too which are listed below.

**The more risk factors you have, the earlier you should seek help if you experience high output.**

Risk factors for AKI:

- » ileostomy/internal pouch
- » heart failure
- » diabetes
- » Chronic Kidney Disease
- » liver Failure
- » increasing age
- » kidney-sensitive medications
- » previous AKI

*Important: If you have severe heart failure or advanced Chronic Kidney Disease (CKD) please seek treatment early irrespective of your symptoms.*

### > Step 3: Adhere to the Medicine Sick Day Rules (MSDR)

These are a set of nationally validated rules which has been produced to aid patients in understanding which medicines they should stop taking **TEMPORARILY**

during any illness which could result in dehydration (infection, vomiting, high stoma output etc).

In the event of high stoma/internal pouch output, please **suspend** the following:

- » **Angiotensin Converting Enzymes Inhibitors** (ending in 'pril') – blood pressure drug
- » **Angiotensin Receptor Blockers** (ending in 'sartan') – blood pressure drug
- » **NSAIDS** – pain killer- e.g. ibuprofen, diclofenac, naproxen
- » **Metformin** – diabetic drug
- » **SGL2T Inhibitors** (ending in 'flozin') used in diabetes, heart failure and CKD
- » **Diuretics** ('water tablets') e.g. furosemide, Bendroflumethiazide, spironolactone

It is vital that these medications are **RESTARTED** when you are well again (usually 24-48 hours -

once illness settles, stoma output normalises and you are eating and drinking).

*Whilst these Sick Day Rules are nationally adopted, if you have concerns about stopping your medication, please speak to your GP, NHS Service such as NHS 111 (NHS24 in Scotland), Stoma Nurse or local pharmacy for more specialised advice.*

#### > Step 4

If you have high output assess your symptoms according to this Red/Amber/Green chart on the next page.

### St. Mark's Solution

- » 6 x 5ml glucose powder
- » 5ml table salt
- » 2.5ml sodium bicarb or citrate

Make up to 1 litre with water.  
Chill and flavour as desired.  
Sip throughout the day.

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## SYMPTOMS

## ACTIONS

GREEN

- » You feel well in yourself
- » You are able to eat and drink normally
- » You are not excessively thirsty
- » You are passing normal volumes
- » Your urine is straw-coloured (light)

- » Adhere to a low fibre diet
- » Don't eat and drink at the same time
- » Adjust loperamide doses according to output
- » Restrict oral fluids to 1.5 litres per 24 hours (avoid caffeine, fruit juice and alcohol). One litre of this should be an oral rehydration solution (as suggested below)
- » Take oral rehydration solution such as Dioralyte/St Mark's Solution
- » Suspend medications as per MSDR
- » Contact stoma nurse/health care worker if you are worried

## SYMPTOMS

## ADDED ACTIONS

AMBER

- » You are passing a reduced amount of urine
- » Your urine looks more concentrated (darker in colour)
- » You are feeling thirsty
- » Your mouth and skin are dry

- » Follow all advice as per **GREEN** pathway.
- » ALSO: contact your stoma nurse/health care professional for advice
- » You may need to have your bloods checked to assess kidney function
- » Attend Emergency Department if you do not improve

## SYMPTOMS

## ADDED ACTIONS

RED

- » You are experiencing dizziness on standing
- » Your blood pressure drops on standing (if you're measuring it at home)
- » You are experiencing muscle cramps/spasms and weakness
- » You are nauseous or vomiting
- » You have severe abdominal pain
- » You are drowsy or confused
- » You have new fluid gathering around your ankles/calves
- » You are experiencing new breathlessness
- » You are experiencing a fast heartbeat or palpitations

- » Suspend medications as per MSDR rules
- » Attend Emergency Department
- » You are likely to be admitted to hospital so take all stoma equipment, medications, clothes, toiletries etc with you.

**General advice is to NOT take any rehydration solutions if you suspect you are at this stage unless under medical supervision as they MAY worsen any electrolyte imbalance.**