Acute Kidney Injury and Care Homes

May 2016
Acute Kidney Injury

Acute kidney injury is a sudden and recent reduction in a person’s kidney function. It is often referred to as AKI.

Acute kidney injury is identified by blood tests when a raised level of creatinine shows the stage of AKI.

Acute kidney injury can be caused by a number of things such as:

- Stress on the kidneys due to illness or infection
- Severe dehydration
- Side effects of some drugs when you are unwell
Key Messages

AKI is common, serious and harmful; however, you can take steps to prevent it by understanding what it is and what you can do to reduce the risk.

Some residents are at more risk of getting AKI. Your residents with Diabetes/Heart failure etc are at high risk. Work with the nurse in charge or care home owner to compile a list of which residents are at risk.

It is important that these residents drink plenty to stay well hydrated. Keep an eye on urine output and colour and know when to report changes to the nurse in charge or care home owner.
Think Kidneys in Care Home settings

Wherever you work and whatever your role in health and/or care you should be aware of AKI. This will enable you to understand how to reduce the risk of AKI for residents in your home.

Health and care professionals need to be well informed and proactive, to understand who is at risk, take an active lead in prevention, learn how to recognise AKI and help the person to recover.

Staff working in care and nursing homes can play a vital role in the early detection, treatment and management of people who may have had an episode of AKI or may be at risk of AKI.
Learning Outcomes

- Define Acute Kidney Injury (AKI)
- Discuss the possible causes of AKI
- Top Tips for carers
- Identify those at risk of AKI
Is Acute Kidney Injury (AKI) really a problem?

In the UK up to 100,000 deaths each year in hospital are associated with acute kidney injury. Up to 30% could be prevented with the right care and treatment.

One in five people admitted to hospital in the UK each year as an emergency has acute kidney injury.

Just one in two people know their kidneys make urine.

About 65% of acute kidney injury starts in the community.

NCEPOD. Adding insult to injury, 2009


Ipsos MORI survey, July 2014

People at higher risk of AKI

- Those aged 75 or over
- People with the following:
  - Heart failure
  - Diabetes
  - Chronic Kidney Disease
  - Dementia
  - Acute illness (sickness and diarrhoea)
(Almost) everything you need to know about your kidneys

Most people have two kidneys
They are about the size of your clenched fist, they each weigh around 150g and are shaped like kidney beans.

They filter your blood every minute of the day
Your blood goes through the kidneys 40 times in 24 hours. There are 140 miles of tubes and a million filters in your kidneys.

They sit in your lower back under the bottom ribs
Only 50% of the population know that kidneys produce urine.

They are the hardest working organs in your body
They use 25% of the blood from every heartbeat.
Causes of AKI

Pre Renal (before the kidneys)

- Most common cause of AKI
- Disruption of blood flow to the kidney

For example:
- Low blood pressure
- Heart Failure
- Low blood volume (dehydration)
Causes of AKI

Intrinsic (inside the kidneys)

- Damage to the kidney itself

  For example:

  - damage to the tiny filters inside the kidneys (Glomerulonephritis)

- Damage to the kidney cells (Acute tubular Necrosis)
Causes of AKI

Post Renal (after the kidneys)

- Caused by a blockage in the urinary tract

For example:

- Blocked catheter
- Kidney stones (renal calculi)
- Bladder tumours
- Enlarged prostate
Symptoms of AKI

In the early stages there may be no real symptoms or signs. A blood test is needed to detect it.

However, someone with AKI can deteriorate quickly and suddenly experience any of the following:

- Changes to urine output, particularly a major reduction in the amount of urine passed
- Changes to urine colour/smell
- Nausea, vomiting
- Abdominal pains and feeling generally unwell, similar to a hangover
- Dehydration or thirst
- Confusion and drowsiness

Consider urine dipstick to test for presence of blood/protein to inform GP
Treatment of AKI

Treatment of AKI is about identifying the cause to help you address the actions needed.

Certain drugs can affect the kidneys and these include:

- Non-steroidal anti-inflammatory drugs (eg Ibuprofen)
- Drugs that lower blood pressure (eg Ramipril)
- Drugs used for people with diabetes (eg Metformin)
- Drugs used by Mental Health patients (eg Lithium)

The GP may decide that some of drugs need to be stopped for a day or two

The resident might need some more blood tests

The GP might recommend to increase fluids or to send the resident to hospital to have some fluid replacement
Preventing acute kidney injury

Staff working in care and nursing homes can play a vital role in the early detection, treatment and management of people who may be at risk of AKI.

The following slides show how you can do this.
**Tips for carers regarding the prevention of acute kidney injury**

**Fluid balance**

- Dehydration is the underlying cause of many common conditions including constipation, falls, urinary tract infections, pressure ulcers, malnutrition, incontinence, confusion and pre renal AKI.

- The elderly are more prone to dehydration because:
  - They may lose the ability to recognise thirst
  - Poor mobility and incontinence may mean a person avoids drinking enough
Tips for carers regarding the prevention of acute kidney injury

Staying hydrated

Some residents may need further support to stay hydrated.

For example:

- Choose a cup suitable for the resident – they may prefer to use a straw
- Support and encouragement to maintain fluid intake throughout the day
- It could be as simple as set drink routines rather than relying on thirst alone
- Jelly and other food rich in fluid can be offered to increase fluid intake if the resident doesn’t want to drink
- Encourage fluids when giving care at night
Signs of dehydration

- Thirst
- Dark urine
- Sunken eyes
- Irritability
- Confusion
- Cool hands or feet
- Low blood pressure
- Raised heart rate
- Headaches

If a person has AKI they may pass less urine than usual, or pass no urine at all
Tips for carers regarding the prevention of acute kidney injury

Spotting dehydration

This urine colour chart will give you an idea of whether a resident is drinking enough. Good means they are drinking enough and dehydrated means the body has lost water and they may need to drink more to make up for the loss.

This chart could be useful although not always a reliable tool in older people because certain conditions and medications may affect urine colour.

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Assessing fluid balance in residents

When you start to assess fluid balance you may face some barriers.

The following slides are to help overcome these barriers.
Assessing fluid balance

Problem:
The resident goes to the toilet independently and doesn’t tell the carer so it isn’t recorded on the chart.

Can the residents record their own balance? Explain the importance of recording it and give them a chart to complete.
Assessing fluid balance

Problem
The relatives give drinks to the resident so it is difficult to record how much fluid is being taken.

Give the relatives a sheet with the amounts on. Get them to document the amounts on fluid balance. This works for some residents too.

To help understand the quantities, how much fluid do you think is in these...?
Assessing Fluid Balance

Standard glass = 200mls

Standard Cup = 150mls

Standard Jug = 1000mls
Assessing urine output

Problem:
The resident is incontinent of urine, making it difficult to assess how much has been passed.

If weighing the sheet is an impractical proposition, (and most often it is), try estimating.

Is this so impossible?
Assessing urine output

How much urine is here?

About 50 mls
Assessing urine output

How much urine is here?

About 200 mls
Assessing urine output

How will you use this to inform you about urine output when residents are wearing pads?

Do the pads used in your care setting have level indicators?
Think Kidneys

- The kidneys don’t usually complain

- The kidneys can lose up to 90% of their function before you may even begin to notice

- The kidneys are clever organs but need a good blood supply to work effectively
What can carers do to prevent Acute Kidney Injury?

Think Kidneys:

When assessing residents:

- Have they passed urine?
- Do they show signs of dehydration?
- Do they have any risk factors for AKI?
- If they are ill with sickness and/or diarrhoea they may need to temporarily suspend some medications
- Ask the nurse in charge for a visit from the GP
Case study

Marjory is an 83 year old resident in your care home

Lived in the care home for three years after she fell at home and fractured her hip

She has lost confidence in walking and likes to have assistance to walk around the home

She takes ibuprofen for some pain in her hip and has tablet controlled diabetes

She has some heart failure and takes Furosemide and Ramipril

Do you think she is at risk of AKI? Why?
Answers to Case Study

Marjory is at risk of AKI:

- Older people are the group most at risk of AKI.
- Older patients are especially prone to dehydration – particularly if they also have dementia or frailty, making food and fluid intake more difficult, particularly if they are reliant on others for access to fluids.
- Patients with heart failure often have an element of Chronic Kidney Disease and are on diuretics and medicines to regulate the blood pressure.
- Metformin (a diabetes drug) is excreted by the kidneys, and therefore raises the risk of AKI.
Important points about AKI

AKI is common, serious and harmful; however, you can take steps to prevent it by understanding what it is and what you can do to reduce the risk.

Some residents are at more risk of getting AKI. Your residents with diabetes/heart failure etc are at high risk. Work with the nurse in charge or care home owner to compile a list of which residents are at risk.

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References


Urine colour chart: http://jbfitnesssystems.com/eddie-vendetta-part-2/

Claire Stocks - Sister – Cardiac Arrest Prevention Team Darlington Memorial Hospital
For further information and resources regarding Acute Kidney Injury please see the Think Kidneys website

www.thinkkidneys.nhs.uk