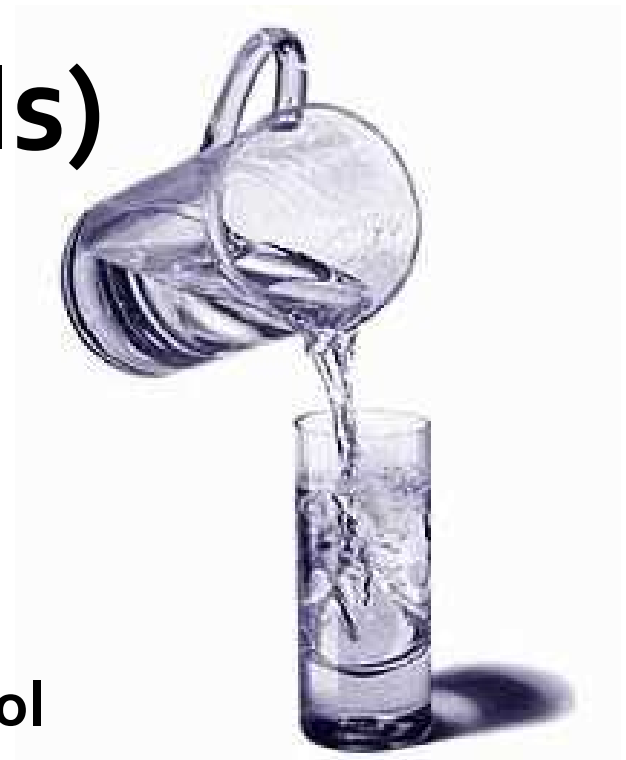


# Improving hydration to prevent urinary tract infections (UTIs)



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# Session objective

To provide a general overview of:

- Causes of dehydration and acute kidney injury (AKI)
- Symptoms of dehydration / AKI
- Activities to prevent dehydration
- Preventing urinary tract infections

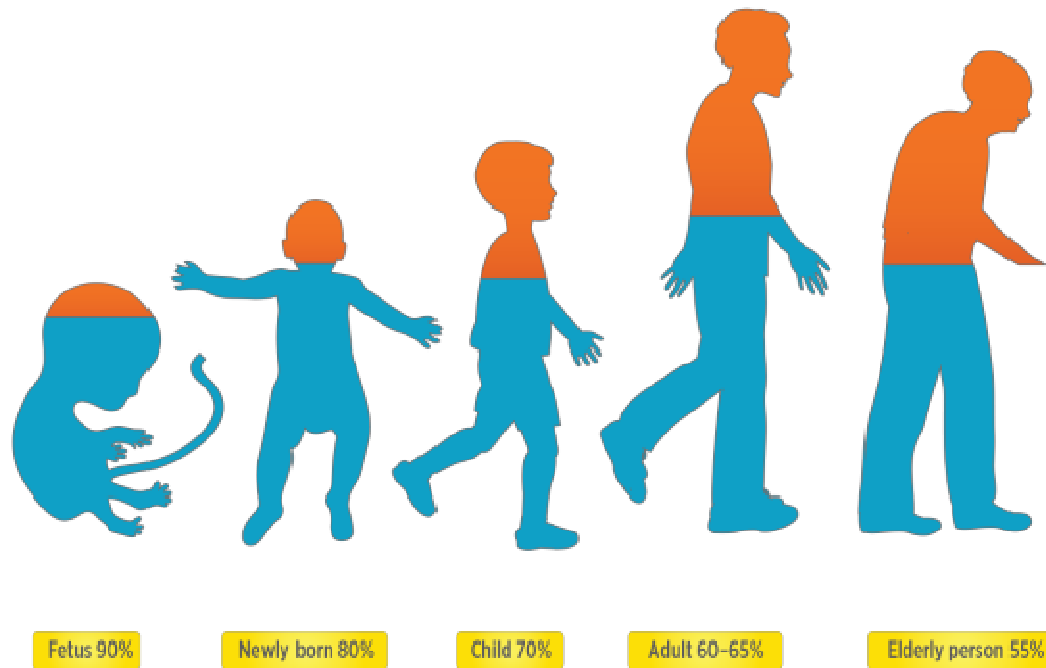


# Why do we need water in the body?

- Aids eating and digestion – saliva, absorption of minerals and nutrients, digestion of soluble fibre.
- Circulation – nutrients and oxygen
- Keeps tissues moist - protects the spinal cord and brain function - lubricant and cushion for joints.
- Aids in cognitive function - focus, alertness, and short-term memory.
- Boosts energy – activates metabolism.
- Improves mood
- Maintains a constant body temperature
- Waste removal - perspiration, urination, and defaecation (prevents but will not cure constipation).

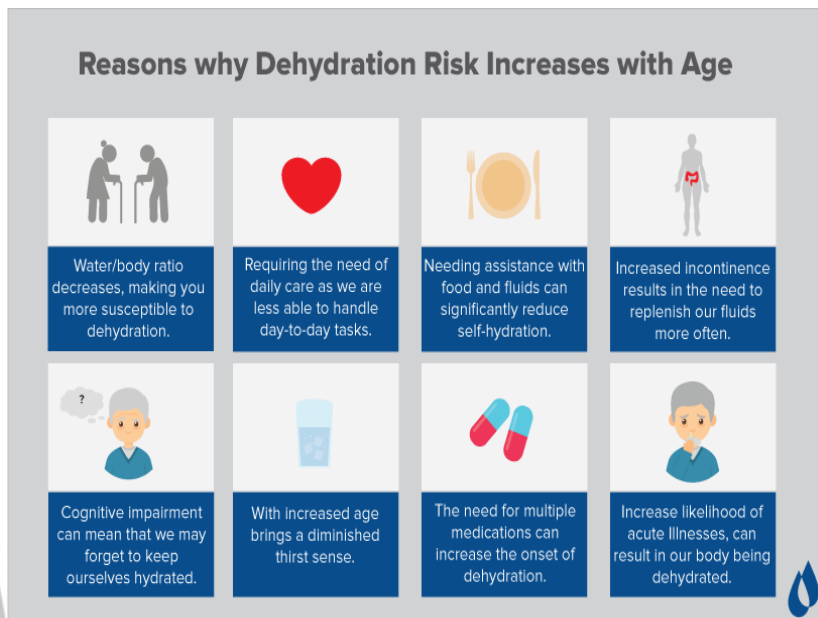


# Physical impact of age on maintaining hydration



- Water/body ratio decreases – less muscle mass – less storage.
- Thirst reflex weakens.
- Kidneys concentrate urine less effectively.
- More fluid is lost – increased incontinence

# Other physical and cognitive factors which impact on maintaining hydration



- Difficulty swallowing
- Frailty
  - Needing help with day-to-day tasks
  - Assistance with food and drink
- Dementia – forget to keep hydrated
- Multiple medications
- Increased likelihood of acute illness

# Dehydration – 2 causes



## 1. Low-intake

not drinking enough to replace our fluid loss  
(sweat, respiration, urine, faeces)

Water  
in

Water  
out

Prevalent in older people living in care homes.  
Most common type in older adults

## 2. Excess loss

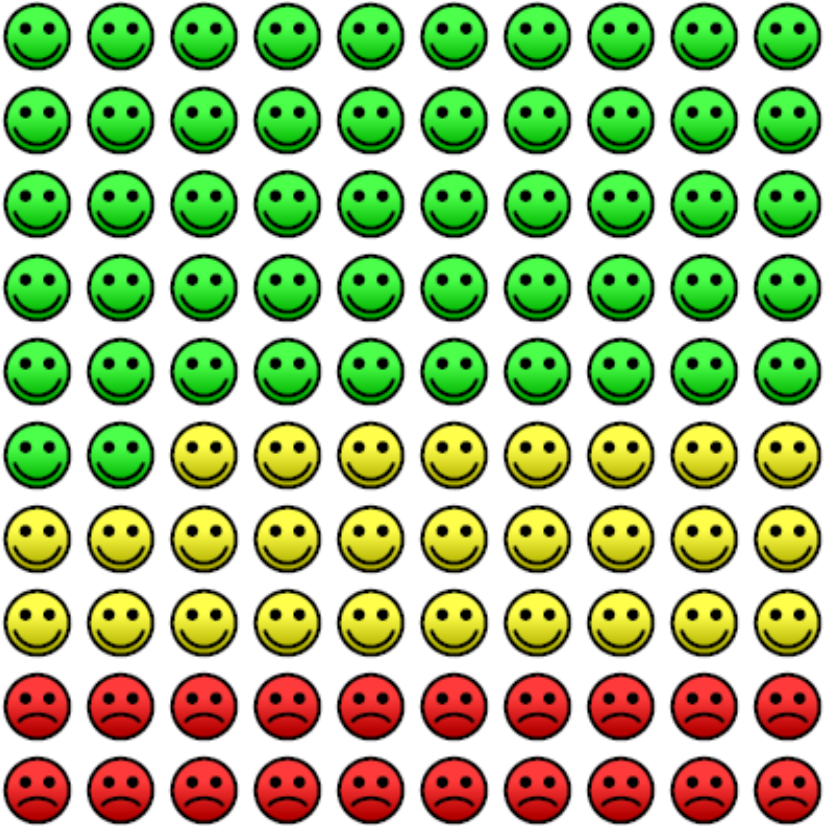
salt & water deficit - occurs in diarrhoea, vomiting or excess sweating

# How many older people living in care homes are dehydrated?

- 20% are dehydrated (1 in every 5 older people is dehydrated)
- A further 28% are at risk of dehydration (impending dehydration)

Key

-  Hydrated
-  Dehydrated
-  Impending Dehydration



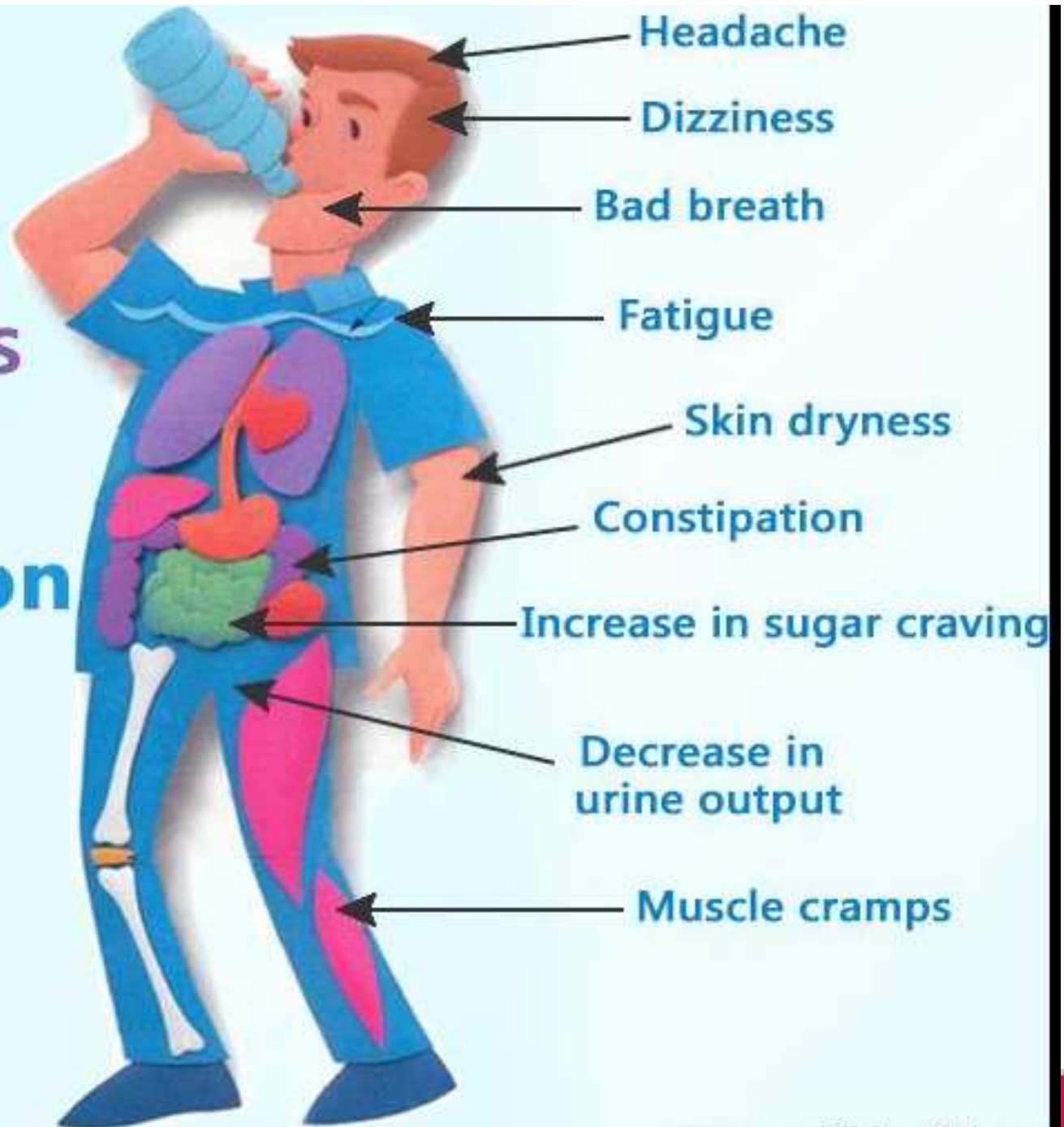
# Risks of dehydration

- Nausea / vomiting
- Confusion, delirium, and anxiety
- Fatigue
- Increasing disability – falls and fractures
- UTIs & other infections
- Heart attack and stroke
- Pressure ulcers and poor wound healing
- Constipation
- Kidney stones
- Heat stress
- Drug toxicity

Clinical signs & symptoms do NOT work to identify dehydration in older adults



# Symptoms of Dehydration



# Hy5 ~ Identifying dehydration in care home residents using the 5 senses



Does the resident's – legs, hands, forearms look dry? (flakes of skin can look grey, or ashy).  
Some medications, including diuretics, and antihistamines, may dry out the skin.  
Are they drowsy?  
Do they have:  
Few or no tears?  
Low urine output: which is more yellow/orange than normal?



Do they have a dry mouth, cracked lips, rough and dry tongue, and sores around the mouth?  
Is eating and swallowing difficult?  
Lack of salivation can make the tongue burn.  
Saliva helps to taste and digest food.  
A dry throat makes choking more common.  
Is there increased thirst?  
Are there food cravings for chocolate, a salty snack, or sweets?



Do they have bad breath?  
Dehydration can prevent the body from making enough saliva.  
Saliva flushes food particles from the teeth and washes acid away.



Does the resident's skin feel dry?  
Dry skin is often felt more than it's seen.  
Do the skin test  
Using 2 fingers gently pinch the skin on the back of the hand and then let it go. The skin should spring back to its normal position in less than a couple of seconds.  
If it takes longer they may be dehydrated.



Is the resident:  
Confused, complaining of a headache?  
Feeling dizzy?  
Complaining of being itchy?  
Do they have a dry mouth?  
(makes it difficult to talk).

## How dehydrated are they?

A quick way to test how well the resident is hydrated is to check the colour of their urine.  
Use this colour chart as a guide.



## Preventing dehydration

### Food

Swap dry snacks with prepared fresh/frozen fruit (melon,

### Clothing in hot weather

Wearing one layer of lightweight,

# Acute Kidney Injury (AKI)

- AKI is serious and harmful.
- 1 in 5 people admitted to hospital as an emergency has AKI.
- 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.
- The additional cost of AKI to the NHS is estimated at £500m each year.
- Over 60% of AKI starts in the community and 400,000 are residents in care homes.

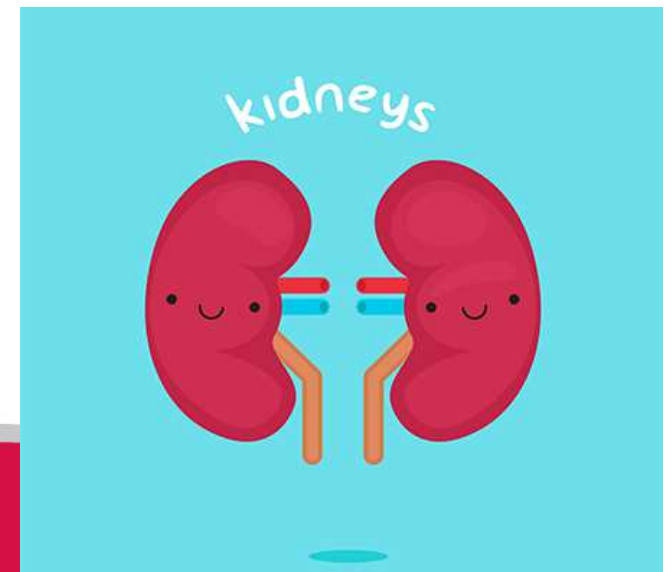
**Increased in care  
home residents**



# Causes of Acute Kidney Injury

AKI can be caused by a number of things such as:

- Stress on the kidneys due to illness or infection
  - Heart failure
  - Liver failure
  - Sepsis
- Side effects of medication
- **SEVERE DEHYDRATION**



# Who is most likely to be dehydrated, and needs more support with drinking?



- **Anyone** who is older and living in a care home is at risk of dehydration.
- This risk increases if the resident is diabetic, has poorer cognition (dementia) or poor kidney function.
- Thirst is not a good guide to whether older adults are drinking enough.
- Residents who are dehydrated have a greater risk of poor health.



# Reviewing hydration care –

Easy to assume that residents get enough to drink.

- Observe what currently happens in your home – identify which strategies would be of most benefit to your residents.
- Observe a mealtime - what works well/what could be improved?
- Collect data on the number of drinks residents receive and when.
- Consider the experiences of different types of residents;
  - those in their own rooms,
  - those with swallowing difficulties or special diets,
  - those who need help to eat or drink
  - Do they get enough drinks?
  - How are they supported to drink?
- Who needs to be monitored?

# Think about

- Offer drinks in cups/glasses which residents can hold.
- Cup size – do they like a cup or a mug
- Type of cup – china or chunky, sports bottle, glass and straws
- Colour of cup – do they have different coloured cups?
- Offer preferred drinks more often
- Residents rely on routines – make sure they happen frequently.
- Offer drinks overnight and before breakfast.
- Encourage substantial drinks with medication.
- Most types of drinks provide fluid (except strong alcohol!).



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# Social drinking

- A team from UEA found that more enjoyable, drink-focused activities for older people encourage more drinking.
- Sociable drinking, with social contact between residents, visitors and staff, was more enjoyable.
- A social space where family and friends can make drinks, sit, chat and drink with residents helped, especially for those with dementia. This can help with serving drinks during activities too.





# Drink based activities



Tea tasting

- Discussing drinks from the past / wartime
- Happy hour - mocktails
- Coffee bar / garden party / beach party / afternoon tea



Making homemade ginger beer/ lemonade

Smoothies/ milkshakes



Is there increased thirst?  
Are there food cravings for  
chocolate, a salty snack, or sweets?



Is the resident:  
Confused, complaining of a headache?  
Feeling dizzy?  
Complaining of being itchy?  
Do they have a dry mouth?  
(makes it difficult to talk).

on the back of the hand and then let it  
go. The skin should spring back to its  
normal position in less than a couple of  
seconds.

If it takes longer they may be  
dehydrated.

They've  
topped up  
with fluids.  
Keep it up!

They're almost there  
but could still drink a  
little more to get  
everything in balance.

They're noticeably dehydrated.  
They should drink more fluids.

They've very dehydrated.

Drink some fluids to get back on track.

They've seriously dehydrated.  
Let's assess we hear or call a  
GP without delay.

## How dehydrated are they?

A quick way to test how well the resident is hydrated is to check the colour of their urine.  
Use this colour chart as a guide.

## Preventing dehydration

### Food

Swap dry snacks with prepared fresh/frozen fruit (melon, watermelon, strawberries, tomatoes).  
Provide snacks of cut vegetables with a high water content  
- cucumber, celery, lettuce and leafy greens, courgettes, and peppers.  
Eat yogurt or drink smoothies.  
Aim to make half their plate fruit and vegetables.  
Sip drinks during meals.

### Drink

Offer a drink at least every half hour.  
Increase cup size - using a sports bottle may be easier to hold for some residents.  
Avoid alcohol, including beer and wine.  
Consider flavoured ice lollipops and popsicles.  
Have a drink handy - if the cup is nearby it is easier to sip without even realising it.  
Adding fruit juice to water can make it more enjoyable to drink.  
Try different flavoured teas.  
Drink room temperature or cooler water.

### Clothing in hot weather

Wearing one layer of lightweight, light-coloured clothing reduces the risk of dehydration.  
Change into dry clothing as soon possible if clothes get wet.

### Activity

Active people get dehydrated quicker so make sure that the residents who walk a lot are hydrated.  
Discourage activity if feeling dizzy, lightheaded, or very tired.

### For more information

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<http://www.lancashire.gov.uk/practitioners/health/infection-prevention-and-control.aspx>



**Lancashire**  
County  
Council

# Fruit activities

- Fruit attractively arranged on a platter – maybe prepare by cutting into different shapes and arranging on a plate. Choosing, washing and peeling fruit.
- Stimulate the senses – use fruits with nice smells such as strawberries, lemons, oranges. Different colours. Use a combination of hard and soft fruits.
- Fruit skewers
- Meringue fruit nests
- Fruit tasting games using different exotic fruits
- What fruit did they used to eat?
- Look in old recipe books

# Other activities

- Ice cream van
- Jellies – different moulds/flavours/maybe add soft fruits
- Oral hygiene
- Incorporate drinks into film matinee, board games etc.
- Bingo – drinks/fruit
- Iced soups
- Educate residents as to why drinking is important by playing games and visits by school children
- Support residents going to the toilet.
- Don't forget to give residents who like to walk a lot plenty to drink.



Training is key to help all staff understand the importance of drinking and how to support residents to drink well.

## Hydration video

<https://www.uwl.ac.uk/academic-schools/nursing-midwifery/research/richard-wells-research-centre/research-projects/i-hydrate>



Think Kidneys is a national programme led by NHS England in partnership with UK Renal Registry

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# Urinary Tract Infections

15% of antimicrobial use in humans is for treatment of UTI.

1/2 of women will suffer at least one UTI at some point - 27% of them will have another one within 6 months, and up to 70% will have another UTI within a year.

Women are advised that staying hydrated can reduce their risk of UTIs – a recent study provided decisive proof that drinking more water can prevent UTIs.

Theory - drinking water → more urine production → flushes out bacteria in the bladder → prevents infection

# Drinking more water can curb recurrent UTIs

Randomized trial - 140 women - recurrent UTIs who usually drank <1,500mls fluid/day.

- 12 months, ½ continue usual fluid intake and the other ½ drink additional 1.500mls of water daily.
- Women who drank more water - average of 1.7 UTIs
- Women who didn't add extra water – average 3.2UTIs.

It is difficult to advise an amount of water to consume to prevent UTIs.

More water usually isn't harmful, but it can result in the need for frequent urination and having to get up at night to urinate.

(Hooten et al 2018)

# Basic precautions to reduce the risk of UTIs

Increased fluids

Personal hygiene – women increased risk

Pads

Hand hygiene

