

EMMA SHIELDS, DIABETES UK

“Kidney disease can happen
to anyone.”
ONLINE

DR SIVAKUMAR SRIDHARAN, LISTER HOSPITAL

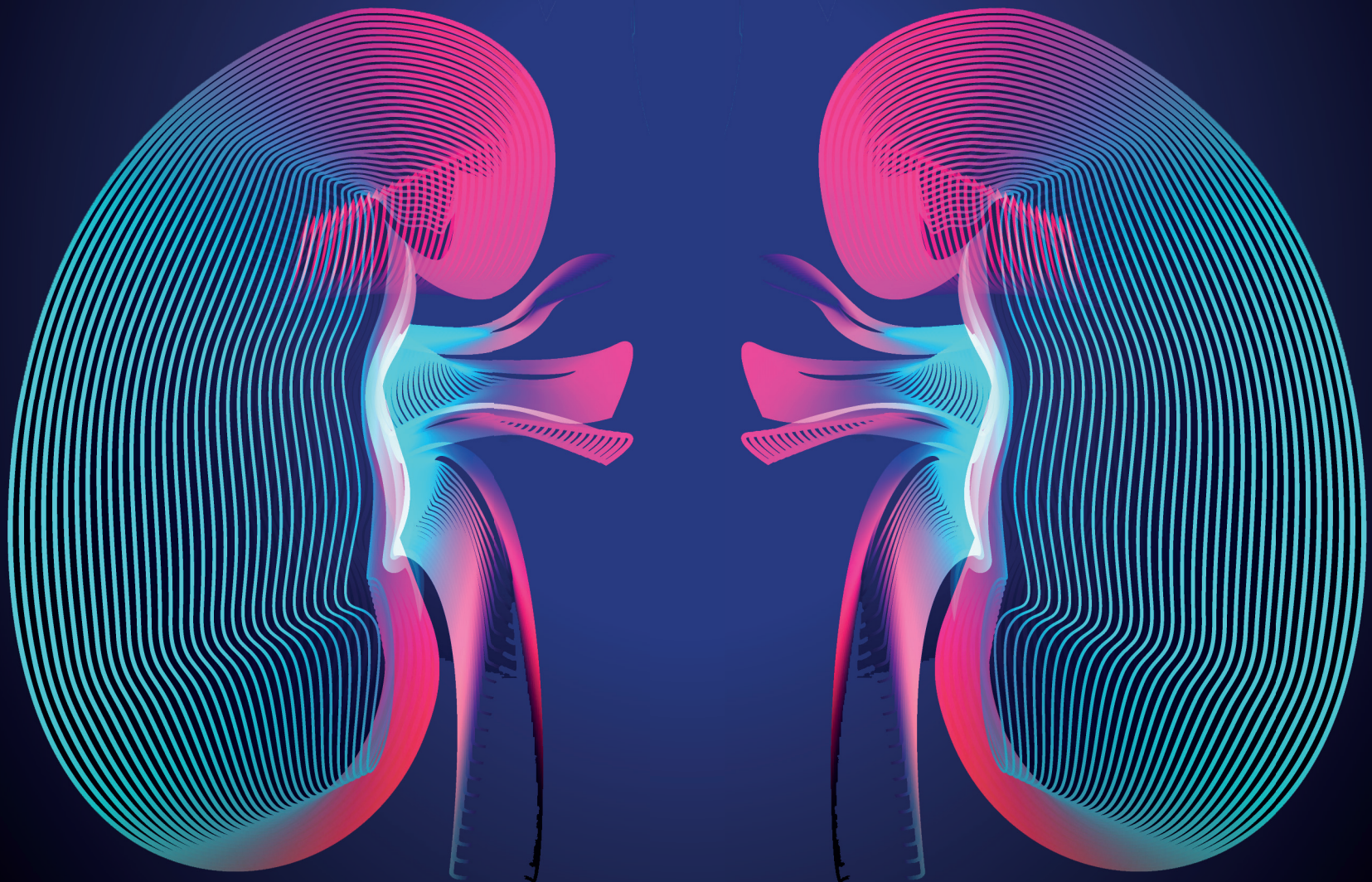
“Nearly 1.25 litres of blood flows through the
kidney every minute.”
» p2

**WORLD KIDNEY DAY JOINT STEERING
COMMITTEE**

“Worldwide, an estimated 10% of people have CKD.”
» p4

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Kidneys - the master chemists of the body

Did someone say kidneys? The two kidneys are located near the back muscles in the upper part of the abdomen – one on each side. The size of the kidneys range between 10 – 13cm depending on the body size, and they weigh around 150 grams each.

Nearly 1.25 litres of blood flows through the kidney every minute, which enables it to filter and clean the blood many times a day.

Is it not just water that kidneys flush out?

While it is true that kidneys excrete excess water from the body, they also flush out a lot of unwanted toxins in the urine. These toxins are formed normally in the body, as a result of various chemical reactions within different organs, but can make you ill if they are not removed. Healthy kidneys are remarkable – they can completely remove these toxins at the right time, with as little as 600ml of urine per day. People with kidney failure have excessive amounts of many of these toxins in the blood, which means they become poorly and they can die sooner.

Kidneys don't do anything else, do they?

The goal of the kidneys is to help maintain a perfect internal environment for all other organs to function healthily. In this context, getting rid of toxic chemicals in urine is only one of the many functions they do. While removing these unwanted toxins, they also ensure that essential chemicals are not lost in the urine and, instead, absorb them back into the blood. Kidneys are the main organs that prevent excess acid building up in the blood too.

Kidneys have a central role in maintaining a normal blood pressure. This is the reason why many kidney diseases can lead to high blood pressure. Kidneys secrete a hormone called erythropoietin, which prevents anaemia (where the blood can't carry enough oxygen around the body). Kidneys produce

“*The goal of the kidneys is to help maintain a perfect internal environment for all other organs to function healthily.*”

the active form of vitamin D and so contribute to better bone health. Kidneys also play an important role in maintaining normal blood sugar levels. This means that some people with diabetes will need adjustments to their diabetes medications if their kidneys are not healthy.

“Kidneys are the master chemists” Dr Homer Smith, an eminent kidney physiologist, once wrote: “The composition of the body fluids is determined not by what the mouth

takes in but by what the kidneys keep: they are the master chemists of our internal environment.” This sums up the importance of kidneys to good health.

Given the complexity and huge variety of functions that kidneys perform, it is unsurprising that even current modern technologies cannot replace all of these functions. As the old saying goes: ‘Prevention is better than cure’ – this is absolutely true with regards to kidney health. Let us all focus on becoming more aware of kidney problems and the things we can do to prevent kidney disease and maintain healthy kidneys.

The professional clinical charities of British Renal Society and the Renal Association are working together with the major kidney patient and kidney research charities (Kidney Research UK, Kidney Care UK, National Kidney Federation UK and the Polycystic Kidney Disease

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Charity UK) to raise awareness of how common kidney disease is and the vital role our kidneys play in maintaining health. Look out for our new campaign #KidneysMatter – The BIG topic everyone is ignoring. ■

Sources: 'Homer W Smith. From Fish to Philosopher. Doubleday & Company, Inc. 1961

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The amazing progress of kidney transplants

Medical advancements in treating kidney failure now mean organs that were previously rejected can instead be improved, increasing the number and improving the outcomes of kidney transplants.

INTERVIEW WITH:



PROFESSOR VASSILIOS PAPALOIS
Consultant Renal Transplant Surgeon

than others. One of these is chronic kidney disease, which has two main causes: diabetes and high blood pressure.

Kidney dialysis comes with many limitations and challenges. According to Professor Vassilios Papalois, Consultant Renal Transplant Surgeon, transplants offer better outcomes and increase patients' life expectancy significantly. He said, "As surgeons we constantly strive to think outside the box when it comes to giving medical care. Dialysis means a constant interruption to daily habits including work and family, but with a successful transplant, life can once again be lived to the full."

As our population ages there are certain conditions that become more prevalent

While the demand for donation still outstrips the amount of viable organs, the upcoming 'opt-out' organ donation changes and the ability to monitor and assess organs to ensure that they become viable should see more successful transplants, more often.

Advancements in organ care

Previously, organ donation from deceased donors has followed a strict set of criteria, but now hospitals such as Imperial College Healthcare NHS Trust's Renal and Transplant Centre at Hammersmith Hospital can receive organs from donors who may have been discounted by guidelines in the past, and improve organs that may not have been considered viable before.

Professor Papalois explains, "Kidney transplants have evolved massively over the last decade. At our Trust, we pioneered machine perfusion in the UK, where an organ can be preserved in a better way than in cold storage. We can now accept organs that were previously considered 'high risk', assess their condition and even improve them before they are transplanted."

Another major advancement in the field of kidney transplantation has been the development of kidney transplants from living donors. Hammersmith Hospital has one of the largest living-donor kidney

transplant programmes in Europe carrying out 70-80 live kidney transplants per year, and offers a pathway not just for high-risk cases, but also pre-emptive transplants that can happen before a patient needs dialysis.

Challenges in recruiting donors

The criteria surrounding donations has been dramatically expanded over the last few years. Patients can receive donations from either a suitable deceased donor or a living donor thanks to techniques that have been developed by pioneering trusts such as Imperial College Healthcare NHS Trust.

With support from specialist organ donation nurses and living donor co-ordinators, there has been a dramatic change in culture for patients and their families, as well as healthcare professionals, in favour of donation and transplantation.

Professor Papalois hopes that with the start of the opt-out donor programme in Spring 2020, which will consider all UK adults organ donors unless they declare otherwise, conversations around donations will become more frequent and more transparent.

He says, "I have worked for the NHS for over 25 years so I know that the biggest challenge is changing the understanding of organ donations and transplants with patients and

colleagues. We still have a big gap in donors but I know that with the advances we are introducing, if we can overcome this we will have a spectacular outcome." ■

WRITTEN BY
GINA CLARKE

If you are an NHS patient in North West London, talk to your GP about being referred to us. If you are interested in hearing more about private care at Hammersmith Hospital's Renal and Transplant Centre, call:

+44 (0)20 3311 7700

Email:

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- Experience private healthcare in modern facilities as part of Imperial College Healthcare NHS Trust. All our profits are reinvested into both NHS and private services meaning our income supports the healthcare needs of our wider community
- We are involved in the latest transplantation research from new drug treatments to advanced surgical techniques, as part of our academic partnership with Imperial College London



Hammersmith Hospital

For more information, to make a referral or to book your treatment, please call us on
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Managing your kidney stone: the next steps

A diagnosis of kidney stones is becoming more common, with around 10% of the population thought to be at risk in their lifetime. With a 50% chance of recurrence, treatment decisions and lifestyle choices are key after diagnosis.



stone detection. While men of my age and background are statistically more likely to suffer from kidney stones, the truth is they can affect anyone of any age, largely due to a diet full of animal protein and a low output of urine."

Available treatments

Current treatments include extracorporeal shockwave lithotripsy (SWL), where energy generated outside the body is focused on the stone to fragment it, with the hope that the pieces will pass spontaneously in the urine. This is often the best option for stones under 10mm in the kidney or ureter.

A ureteroscopy/flexible ureterorenoscopy known as URS/FURS is a procedure where a small-calibre fibre-optic telescope is passed via the urethra and bladder as natural orifice surgery, so no incisions are needed. A laser then breaks down the stones at a high temperature.

Two techniques are used, depending on the patient and stone: "dusting", generating pieces less than 1mm that will pass in the urine and "busting", whereby fragments of around 3mm are created and sequentially removed using a specially designed basket.

Finally, a percutaneous nephrolithotomy (PCNL) can be used for stones of increasing size and complexity. Instead of using the ureter to access the kidney, a tract is created through the skin to allow larger stones of 20mm or more to be treated and removed.

These procedures have increasing risk from SWL to PCNL, including length of hospital stay and potential bleeding but recent advancements can help with a faster recovery.

High chance of recurrence

At the heart of this is the patient's decision. One of the options is to simply do nothing. Mr Smith explains: "Observation is perfectly reasonable for a small stone in the kidney that is not causing any symptoms or signs of blockage on the scans. We apply the adage, 'it is very difficult to make the asymptomatic patient feel better.'

"Treatments are like notes on a trumpet, you may need to use them in combination. This strategy is mainly due to the needs of the patient. Each stone is different and as technology advances, both lasers and instruments are becoming smaller so there are more options for the

“*If this was cancer and we told patients that half would be at risk once again, but we wouldn't monitor it, there would be an uproar*”

patients to choose from to suit their personal circumstances. It's all down to them."

However, with this condition comes a high chance of recurrence, as around 50% will have another episode in the next five or 10 years.

Mr Smith said: "The issue with this condition is the funding, there is not enough both for research and follow up for patients. If this was cancer and we told patients that half would be at risk once again, but we wouldn't monitor it, there would be an uproar, particularly as infection in a kidney above a stone obstructing the ureter can make patients seriously unwell due to sepsis."

Aftercare and prevention

Once a stone has formed and been removed, analysis is usually carried out on the biochemical composition helping to inform the patient around future steps.

This is mainly dietary advice, combined with recommending a high fluid intake to generate a daily urine output around two litres (or more in certain cases). There may also be the need for further scans to allow for pre-emptive treatment if needed. ■

WRITTEN BY
GINA CLARKE

Further details for these procedures and stone prevention advice can be found on the BAUS website:

baus.org.uk/patients/conditions/6/kidney_stones

Most kidney stones present with some sort of symptoms, whether that's severe pain in the loin or blood in the urine. Occasionally, there are no symptoms, but they can appear as an incidental finding on an ultrasound or CT scan performed to investigate a completely different problem.

Consultant Endoluminal Endourologist, Mr Daron Smith explains, "Turning 50 this year was somewhat offset by my knowledge that western Caucasian men aged 49 account for the peak age for kidney

“I was home the same day!” - why surgeons and patients prefer the new ‘MIP’ kidney stones technique

Renal stones are an often painful condition that is on the up in the western world, increasing by roughly 60% over the last 10-years alone. Not only is there a one in 13 chance of getting a stone in your lifetime, but after treatment you then have a 50% chance of recurrence.

INTERVIEW WITH:



SHARON SCRIVEN

Consultant Urologist,
Nottingham University Hospitals Trust

bleeding and infection. The patient would potentially need to stay in hospital and be monitored.

Now, thanks to a culmination of techniques over the last ten years or so, MIP (Minimally Invasive PCNL) means that, by working with smaller instruments from the nephroscope to the laser, the wound is much smaller.

Recovery times much improved

Ms Sharon Scriven, Consultant Urologist at Nottingham University Hospitals Trust, explains: “Since I have been working in hospitals over the last 13 years, this technique has been streamlined. Not only can we treat both adults and children, but the wound size is much smaller, less than a centimeter. This means we can close with just a single stitch or even some glue and you wouldn’t know we’d been there.” In terms of recovery times, patients are often discharged the next day after a fluid check, sometimes even the same day.

This means that, despite a growing demand for treatment currently existing in the NHS, patient referral and treatment times are much quicker than ever before.

Patient story

For 50-year old Shaun Beet from Nottingham, finding his kidney stones 18-months ago was a big surprise and only came to light after suffering a burst appendix.

“In terms of recovery times, patients are often discharged the next day after a fluid check, sometimes even the same day”

He said: “It seems I might have had the stones due to other complications I’ve had from birth, but I had no symptoms. I was shocked!”

After an emergency operation for the appendix, Shaun was referred to his urology clinic where, due to the location and size of his stones, he was offered an MIP (Minimally Invasive PCNL).

No symptoms or pain

He said of the diagnosis and recovery, “throughout the experience I have had no pain at all, with no symptoms and no pain following the procedure either. In fact, I refused pain killers in hospital as I didn’t need them, and once my fluid output was checked I was allowed home that evening.”

Shaun added: “If anyone is in my position I would advise that they go for it.”

Instruments may get smaller still

Ms Scriven adds: “With the mini perc, or day case PCNL as they are sometimes known, the principles of kidney stone removal is still the same, it’s just our techniques that have changed. There will continue to be new advances in urology, and while the instruments may get smaller still, there is a limit due to the size of stones we may face.” This may lead to improvements in areas such as the quality of imaging or the energy used to break up the stone.

While the removal process has changed, the advice for patients recovering from kidney stones is still the same: drink plenty to dilute the urine and alter your diet to suit.

This may mean a low salt diet if a patient is living with diabetes or a need to reduce animal protein. With any treatment, patients can expect further analysis on the stone to help with tailored advice going forward. ■

WRITTEN BY
GINA CLARKE

INTERVIEW WITH:

SHAUN BEET
Patient

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How to reduce your risk of developing kidney disease

Despite affecting around three million people in the UK, in its early stages, kidney disease can be hard to detect because there may be no obvious symptoms. In fact, many people don't realise how important their kidneys are until they stop working properly.

Growing up in the Caribbean, Patricia Gooden suspected she had symptoms of diabetes from as young as 13 years old, but it remained undetected and was not diagnosed until she had moved to the UK and was pregnant with her second child. Patricia managed her diabetes with insulin but, 15 years later, her health took a sudden turn for the worse. She did not realise that she had developed chronic kidney disease (CKD).

Despite having type 2 diabetes (a known risk factor for CKD), it took three years for her kidney disease to be diagnosed. She describes it as 'three years of suffering', with prolonged vomiting, numerous tests, the removal of her gall bladder, a lack of communication between GPs and hospitals and, worst of all, medical staff not taking her seriously. It had a big impact not just on her, but her family, who had to take her to hospital every week for months.

Today, Patricia uses her experience of struggling to get a diagnosis, of managing dialysis and looking after her transplanted kidney, to inform the voluntary work she carries out to support other kidney patients. "I don't want anyone to have the horrible experience I had," she says.

How you can reduce your risk

There are several easy ways to reduce the risk of developing and/or managing the progression of kidney disease. Some small changes in behaviour and lifestyle can have enormous health benefits:

- Monitor your blood pressure – High blood pressure accelerates kidney damage. To protect yourself from kidney disease you should also maintain a diet low in salt and saturated fats
- Keep fit and active – This helps reduce your blood pressure and therefore reduces the risk of developing kidney disease
- Don't smoke – Smoking slows blood flow to the kidneys, decreasing their ability to function properly
- Eat healthily and keep your weight in check – This can help prevent diabetes, heart disease and other conditions associated with kidney disease
- Get your kidney function tested regularly – This is sensible if anyone in your family has suffered from kidney disease, if you have diabetes or have high blood pressure or are severely overweight
- Keep well hydrated – This helps the kidneys clear toxins from the body, which can significantly lower the risk of developing kidney disease and reduce urinary tract infections.

The Kidney Charities Together group is calling for greater awareness of chronic kidney disease in the UK. They are encouraging people living with kidney disease to share their experiences of why #KidneysMatter on social media, to share World Kidney Day materials with their friends and family, and to run local awareness events.

Thursday 12th March 2020 marks the fifteenth time that World Kidney Day has been celebrated. The day gives us a chance to shine a light on kidney disease and help raise awareness of the impact it has on peoples' lives. The focus in the UK for 2020 is 'Kidneys Matter – the BIG topic everyone is ignoring', highlighting those who are at risk of kidney disease and how we can help them be diagnosed sooner. ■



Having suffered with CKD, Patricia now volunteers to support others living with conditions affecting the kidneys

More info

The Kidney Charities Together Group co-ordinates the activity in the UK. The Group consists of Kidney Care UK, Kidney Research UK, the National Kidney Federation, the Polycystic Kidney Disease (PKD) Charity, the British Renal Society and the Renal Association.

For more information go to:

www.worldkidneyday.co.uk

World Kidney Day 2020: The onset and progression of CKD are often preventable

WRITTEN BY:
PHILIP LI

Honorary Professor of Medicine,
Chinese University of Hong Kong
and President of Hong Kong
College of Physicians
Represents International Society
of Nephrology on the World
Kidney Day Joint Steering
Committee



WRITTEN BY:

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Represents International Federation
of Kidney Foundations on the Joint
Steering Committee



Preventive interventions – put in place in every country – could be the most suitable means of reducing the prevalence of chronic kidney disease (CKD) and the costs associated with it.

One in three people in the general population (an estimated 850 million people) is at increased risk of CKD. Worldwide, an estimated 10% of people have CKD, and estimates suggest nine in ten of those are unaware of their condition. The global burden of CKD is rapidly increasing with a projection of becoming the fifth most common cause of years of life lost globally by 2040.

Preventable costs of chronic kidney diseases

The costs of dialysis and transplantation consume 2–3% of the annual healthcare budget in high-income countries. This money is being spent on less than 0.03% of the total population of these countries. To reduce costs, the focus should then be put on preventing CKD.

Cost-effectiveness can be increased by adopting secondary prevention measures for higher-risk populations such as those with diabetes mellitus and hypertension and those with rapid CKD progression.

Education and political engagement, the first steps toward prevention

"Primary prevention should focus on the modification of CKD risk factors and addressing structural abnormalities of the kidney and urinary tracts. There should also be a focus on exposure to environmental risk factors and substances that inhibit, damage or destroy the cells and/or tissues of the kidneys (nephrotoxins)," explains Professor

Philip Kam Tao Li, Co-chairman of World Kidney Day Joint Steering Committee for the International Society of Nephrology (ISN).

"In contrast, in persons with pre-existing kidney disease, secondary prevention, including blood pressure optimisation, glycaemic control and avoiding a high-protein high-sodium diet should be the main goal of education and clinical interventions," adds Professor Guillermo Garcia Garcia, Co-chairman of WKD Joint Steering Committee for the International Federation of Kidney Foundations (IFKF).

Prof Li, who is also Immediate Past President of the Asian Pacific Society of Nephrology, says: "Educational and political efforts are needed to push the 'prevention' approach."

We need to raise awareness across all of society

CKD prevention should be understood across all parts of society: from the general public to nephrologist practitioners and decision-makers. Populations should be made aware of the risks through global communication campaign, while online learning platforms can empower patients.

On the flipside, practitioners who receive cross-speciality training will increasingly identify and treat at-risk patients. Politicians can do their share by prioritising integrated NCD programmes and support good practice. Good practice includes screening at-risk populations, improving universal access to essential diagnostics of early CKD, increasing the availability

of affordable basic technologies and essential medicines, and task shifting from doctors to front-line healthcare workers to more effectively target progression of CKD.

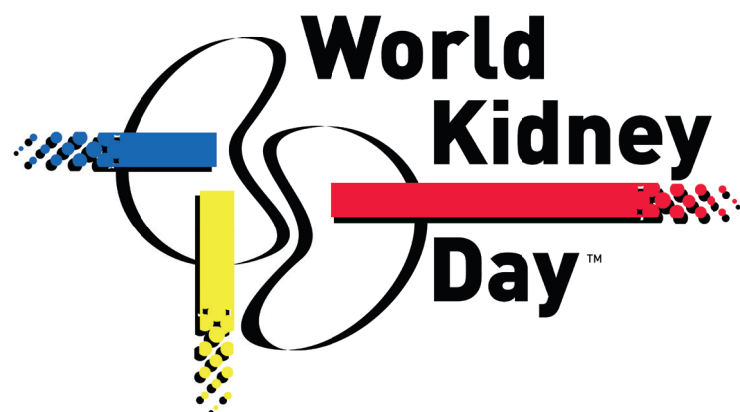
World Kidney Day on Thursday, 12 March 2020

Led by the ISN and the IFKF, the theme for World Kidney Day 2020 is: "Kidney Health for Everyone Everywhere – from Prevention to Detection and Equitable Access to Care." It highlights the importance of preventive interventions – be it primary, prevention of CKD onset, or secondary or tertiary, i.e. prevention of worsening early CKD or progression of more advanced CKD to end-stage kidney disease, respectively. ■

Info box

World Kidney Day (@worldkidneyday) takes place on the 12th of March 2020, and is a joint initiative of the International Society of Nephrology and the International Federation of Kidney Foundations. World Kidney Day 2020 is kindly backed by cooperate supporters Astellas, AstraZeneca, Baxter, Danone, Fresenius Medical Care and Janssen&Janssen.

Read more at
healthawareness.co.uk



12 March 2020

**visit
www.worldkidneyday.org**

for more information



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