

Chronic Kidney Disease: why it matters and how best to manage it

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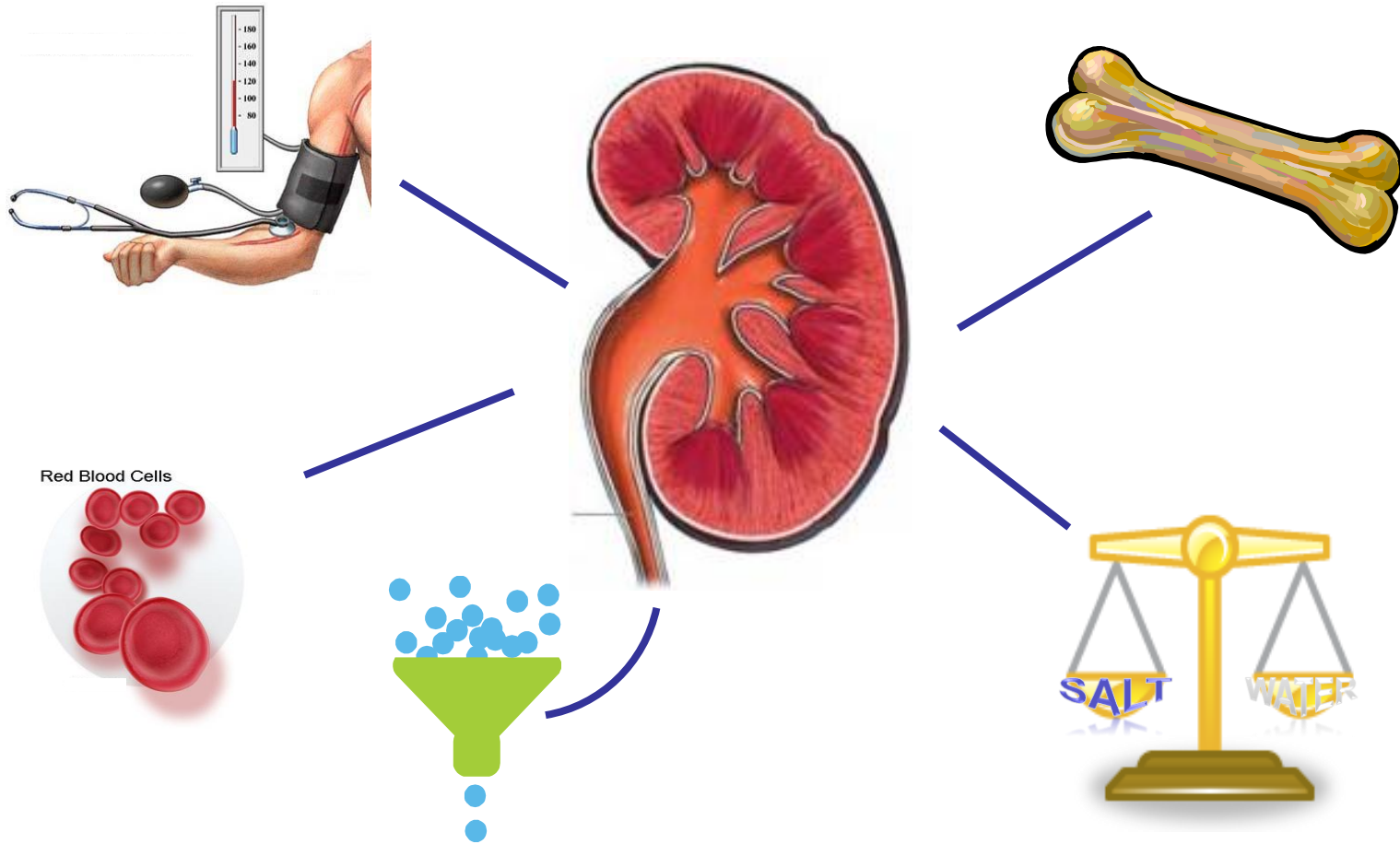
Kidneys



Kidneys are crucial organs in the body

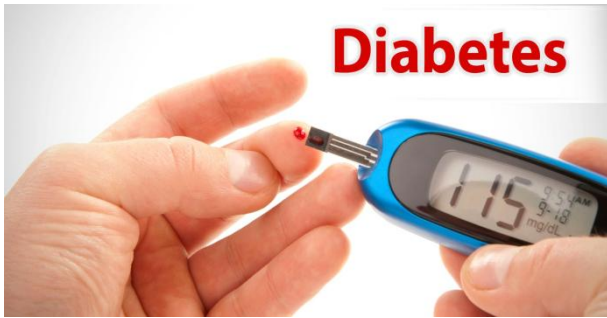
Your life will be at risk if they don't function well

What do our kidneys do?

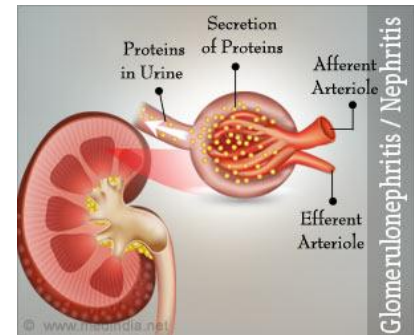
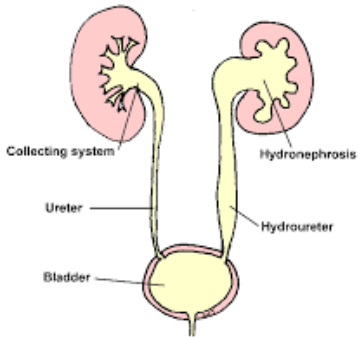
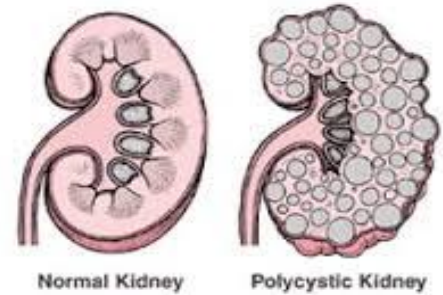


What is Chronic Kidney Disease?

- Chronic Kidney Disease (CKD) is a long-term condition where the kidneys don't work as well as they should
- It usually affects both kidneys
- It is common and often associated with getting older
- Can affect anyone, more common in black and south Asian people
- Kidney failure occurs in around 1 in 50 people with CKD



Causes of CKD



Tests for CKD



GFR



Kidney size, obstruction



Protein and/or blood

CKD stages

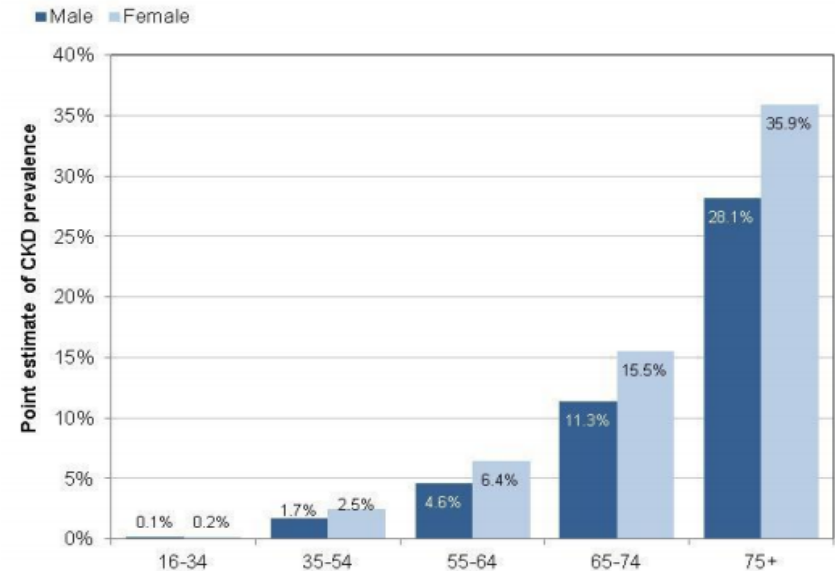
CKD Stages	GFR	Description
1	>90	Normal GFR with other sign of kidney damage
2	60-89	Slight ↓ in GFR with other sign of kidney damage
3	30-59	Moderate ↓ in GFR
4	15-29	Severe ↓ in GFR
5	<15	Established kidney failure, when dialysis or kidney transplant may be needed

Why is CKD important?

- Increase in CKD incidence worldwide
- CKD 3-5: 7.4% in women, 4.7% in men
- CKD is associated with other health issues such as heart disease or stroke leading to premature death or disability
- If not detected early enough, it may progress to kidney failure

CKD prevalence by age and sex

Summary of estimated CKD stage 3-5 prevalence in England



Early detection important!

- There are usually no symptoms of kidney disease in the early stages
- You can lose up to 90% of your kidney function without any sign
- When it reaches a more advanced stage, symptoms can include:
Tiredness, shortness of breath, feeling sick
- **Early detection can prevent/ slow the progression of the disease**

Treatment for CKD

- There is no cure for CKD
- Treatment can help to slow the progression of CKD and improve symptoms

The main treatments are:

- Lifestyle changes to ensure you remain as healthy as possible
- Medication to control associated problems such as high blood pressure, diabetes and high cholesterol
- Treatment for anaemia and bone disease

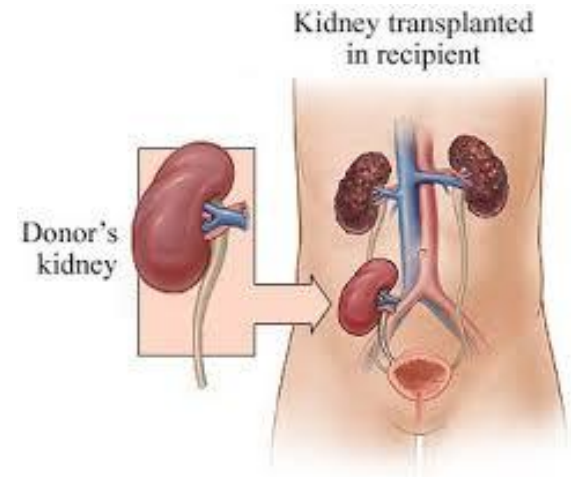
Treatment when the kidney fails



Haemodialysis



Peritoneal dialysis



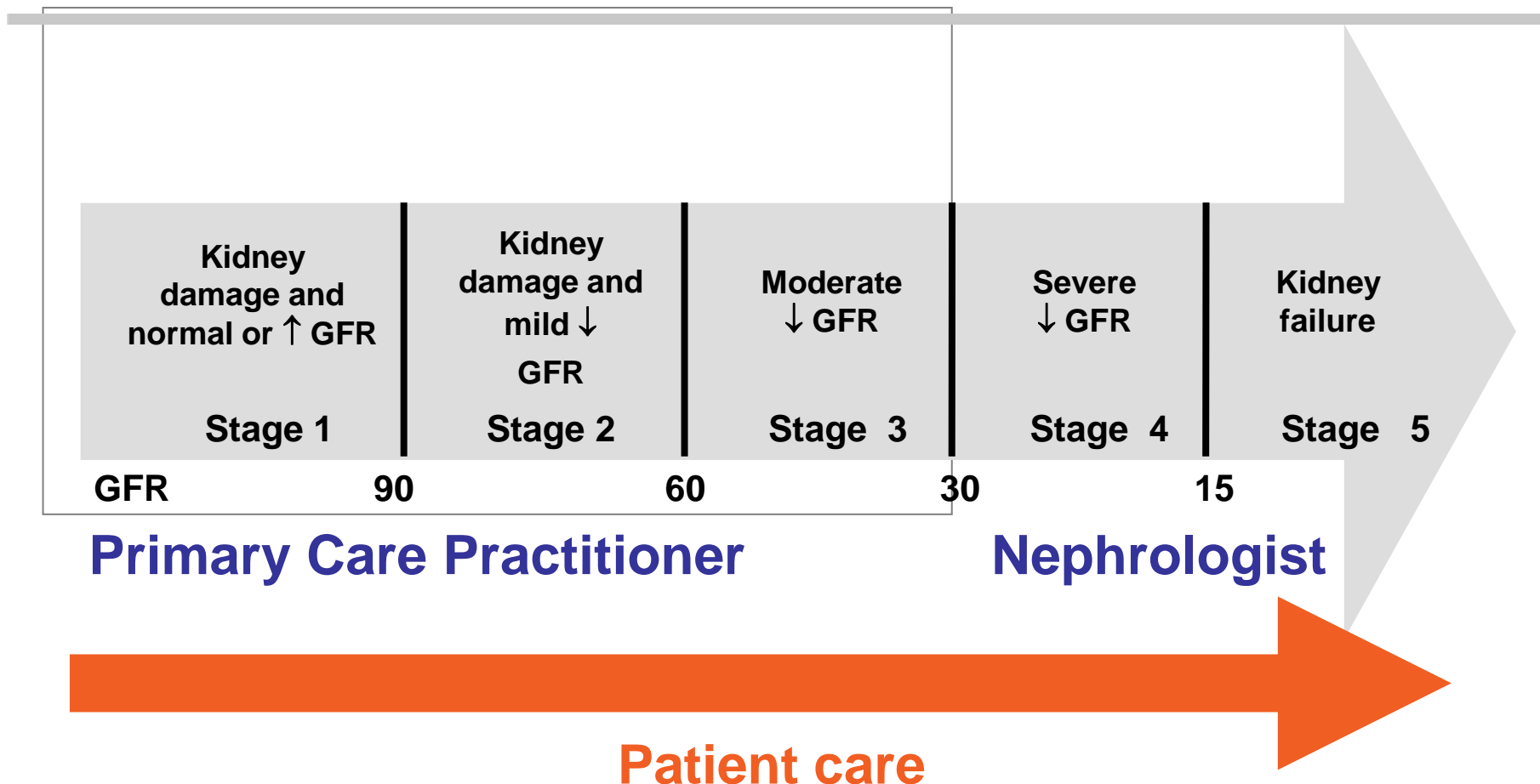
Cost

- Total cost of CKD in England in one year: **£1.4 billion**
- 1.3% of all NHS spending
- More than half spent on the 2% that progress to kidney failure
- 7000 excess strokes, 12,000 excess myocardial infarctions happened in people with CKD in one year: £175 million



Data from NHS England: 2009-10

Who should care for patients with CKD?



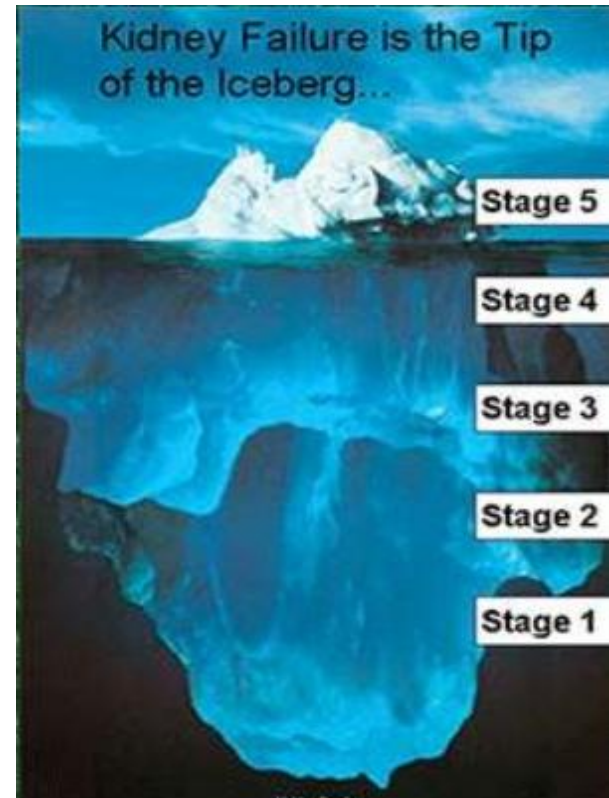
Adapted from NKF

How are we managing CKD now

- Patients identified by their GP as having CKD stages above 3 are referred to the nephrologist based on NICE guideline
- Multidisciplinary clinic appointment
 - nephrologist review
 - specialist nurse review with lifestyle advice
- Usually blood test and a kidney ultrasound is requested
- Patient is seen again in clinic with the results or discharged if information satisfactory

Problems with this model

- The data on the referral form is not always complete
- Not all patients with CKD need to see a nephrologist
- Under-diagnosis of CKD is common



How can we do better?

- Look at other centres and learn from best practice
- In London, the Royal Free and Royal London have developed
 - a model by which they proactively identify patients with CKD
 - review referrals virtually and see patients who require nephrology opinion
 - have a system where they can communicate better with GPs
 - have regular teaching sessions for patients and GPs

What we are working on

- Set up a virtual referral model for CKD
- Create an IT platform where GP and nephrologist can communicate easily
- Provide education and support

Goal: Co-Management Model

Patient-centred care



- Collaborative and coordinated care
- Clinical decision support
- Population health
 - Development of treatment protocols

Summary

- CKD is common
- It increases the risk of heart disease and stroke
- It is important to identify it early and prevent progression
- We can and should improve management of CKD by working collaboratively with GPs and patients

What the future holds

Stem Cell Treatment For Kidney Disorder

Polycystic Kidney

Renal Artery

Our revolutionary stem cell technology can

- ✓ Stop further progression.
- ✓ Avoid the need of dialysis.

Renal Artery

Cysts reduced considerably

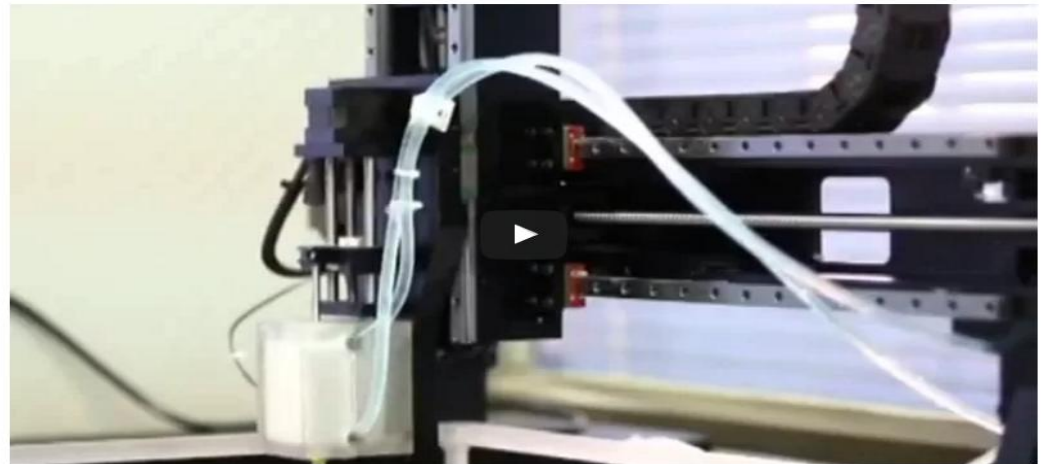
Stem Cell Isolation From Bone Marrow

Isolation Of Stem Cells

Scientists Can Now 3D Print Transplantable, Living Kidneys

Ashley Feinberg
8/13/13 10:13am · Filed to: SCIENCE

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Thank you for your attention