Understanding
Your Kidneys

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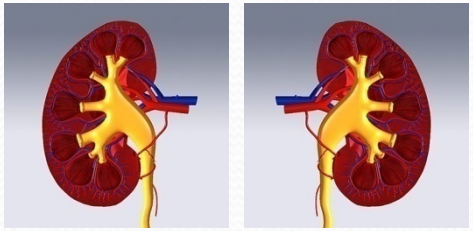
Today's Discussion -

- The Role of your kidneys
- Common causes of kidney disease
- Treatment for kidney disease
- How to keep your kidneys healthy

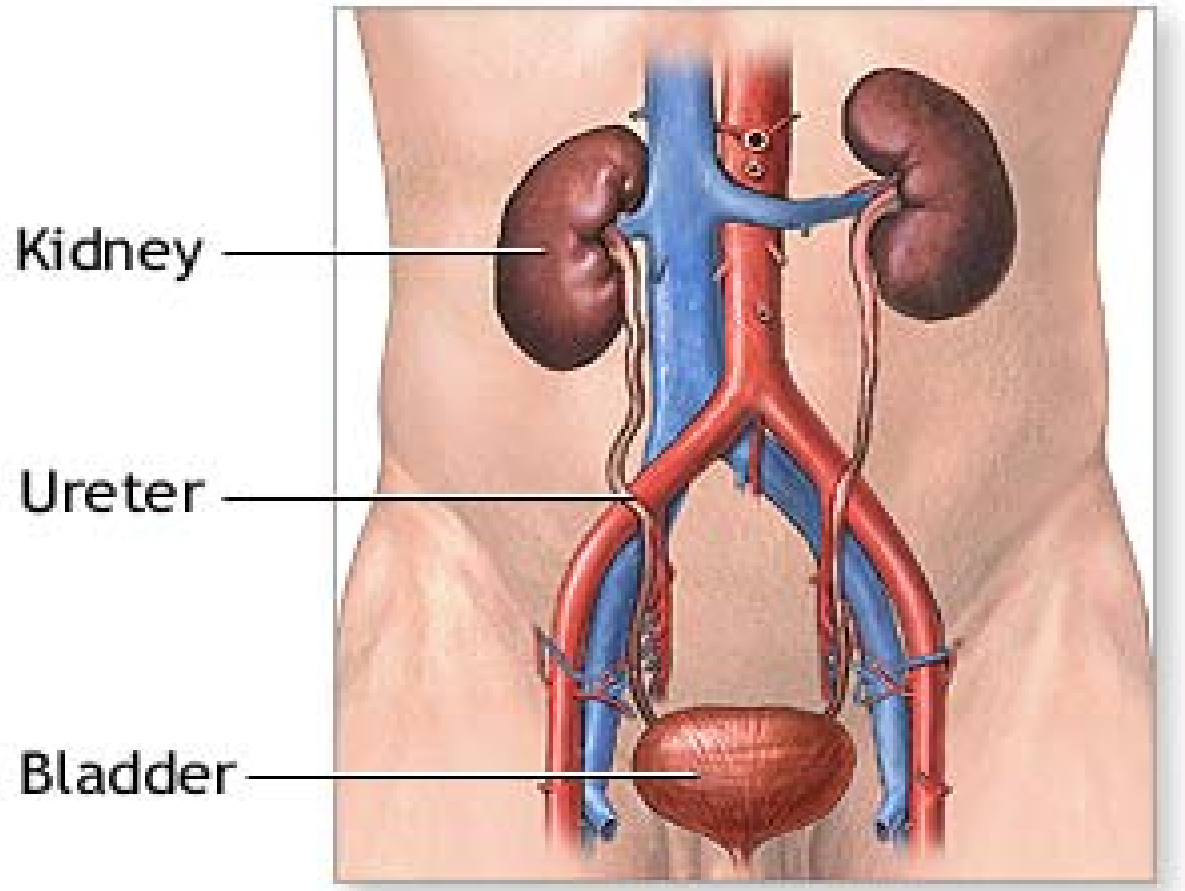
What Are The Kidneys?

The Kidneys



- Two Kidneys
- Bean-Shaped Organs
- Each Approx. size of the fist

Where Are The Kidneys Located?

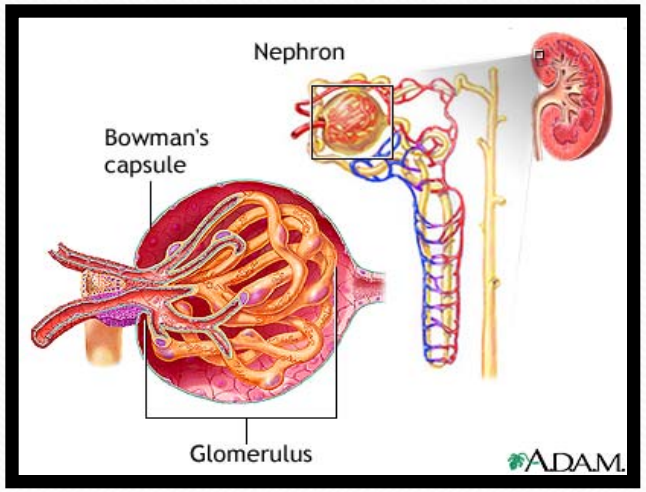


The Role of Your Kidneys

- Keep body in fluid balance
- Remove waste products and medication from the blood
- Regulate hormones
  - Erythropoietin (RBC)
  - Renin (B/P –fluid balance)
  - Active form of Vit D (bones)

How Do The Kidneys Work?

- **Nephrons** (1,000,000 filter units in each kidney)
- **Glomerulus** (tiny set of looping blood vessels)
- **Tubules** (hold onto fluid and chemicals the body needs or eliminate them in the urine)



Common Body Chemicals Regulated By the Kidneys :

- Potassium
- Sodium
- Phosphorus

Waste Products Found In Blood?

- **Creatinine(Cr.)**

  Normal range 0.6 to 1.50 mg/dL

  Muscles during activity/metabolism

- **Blood Urea Nitrogen (BUN)**

  Normal range 5-20 mg/dL

  Proteins from foods eaten/broken down

Waste Products

- Waste enters the blood once the body has taken what it needs for energy
- Build up of waste in the blood can damage the body, this is why the work of the kidneys is very important

Glomerular Filtration Rate (GFR)

What is GFR?

- A measurement of how efficient the kidneys filter waste from the blood
- The calculation using the patient's creatinine value, weight, age, sex and race.

Guidelines establishing -The Stages of Kidney Disease

Stages of Chronic Kidney Disease

Stage	Description	GFR Level
Normal function	Healthy kidneys	90 mL/min or more
Stage 1	Kidney damage with normal or high GFR	90 mL/min or more
Stage 2	Kidney damage and mild decrease in GFR	60 to 89 mL/min
Stage 3a	Moderate reduction in GFR	45 to 59 mL/min
3b		30 to 44 mL/min
Stage 4	Severe decrease in GFR	15 to 29 mL/min
Stage 5	Kidney failure	Less than 15 mL/min or on dialysis

Kidney Disease in The USA

- **An estimated 26 million adults have Chronic Kidney Disease (CKD) and most don't even know it.**

- **548,000 have CKD Stage-5 (sometimes called kidney failure) and need dialysis or a kidney transplant to stay alive.**

- **Kidney Disease is a Silent Disease– you don't feel symptoms.**

What Are The Common Causes of Kidney Disease?

The Risk Factors For Kidney Disease

- Diabetes
- High Blood Pressure
- Over 60 years old
- Heart or blood vessel disease (cardiovascular)
- Obesity
- Family History of:
  - Diabetes
  - High Blood Pressure
  - Kidney Disease

African-Americans, Hispanics, American Indians and Pacific Islanders are at an increased risk.

72 %

of New Dialysis Patients

Have Diabetes and/or Hypertension as cause of their Kidney Disease

Treatment For Kidney Disease

- CKD Stage 1-3
  - Medical Care for Cause of Kidney Disease
  - Preventative, Wellness and Life style changes
- CKD Stage-4-5
  - Education - Options for Dialysis
  - Kidney Transplant

Dialysis

- **Does not fix the kidneys**
- **Replaces some of the work kidneys can no longer due because of disease**
- **Most people receive dialysis treatments the remainder of their life (unless they receive a kidney transplant)**

Two Options for Dialysis

Both clean the body of waste products and extra fluid

Hemodialysis

- **Requires an Access- means by which blood leaves and returns to the body so dialysis can take place (Normal veins are too small)**
- **Surgical creation--A-V Fistula or A-V Graft**
- **Radiology placement---Tunneled Catheter (temporary)**

Hemodialysis

- **Treatments are 3 x per week**
- **Duration of treatment 3-5 hours**
- **Most patients go to a center near their home** (sometimes completed at home under safe conditions)

Peritoneal Dialysis

Requires an Access---

- **Peritoneal Dialysis Catheter- Surgically placed**
- **At home dialysis- responsibility on patient/family to complete exchanges**
- **Trained by CAPD RNs**

Transplant

- Kidney provided by living donor or deceased donor
- Life long immunosuppressive medications
- No further need for dialysis

What Can You Do
To Keep Your Kidneys Healthy ?

Diabetes-

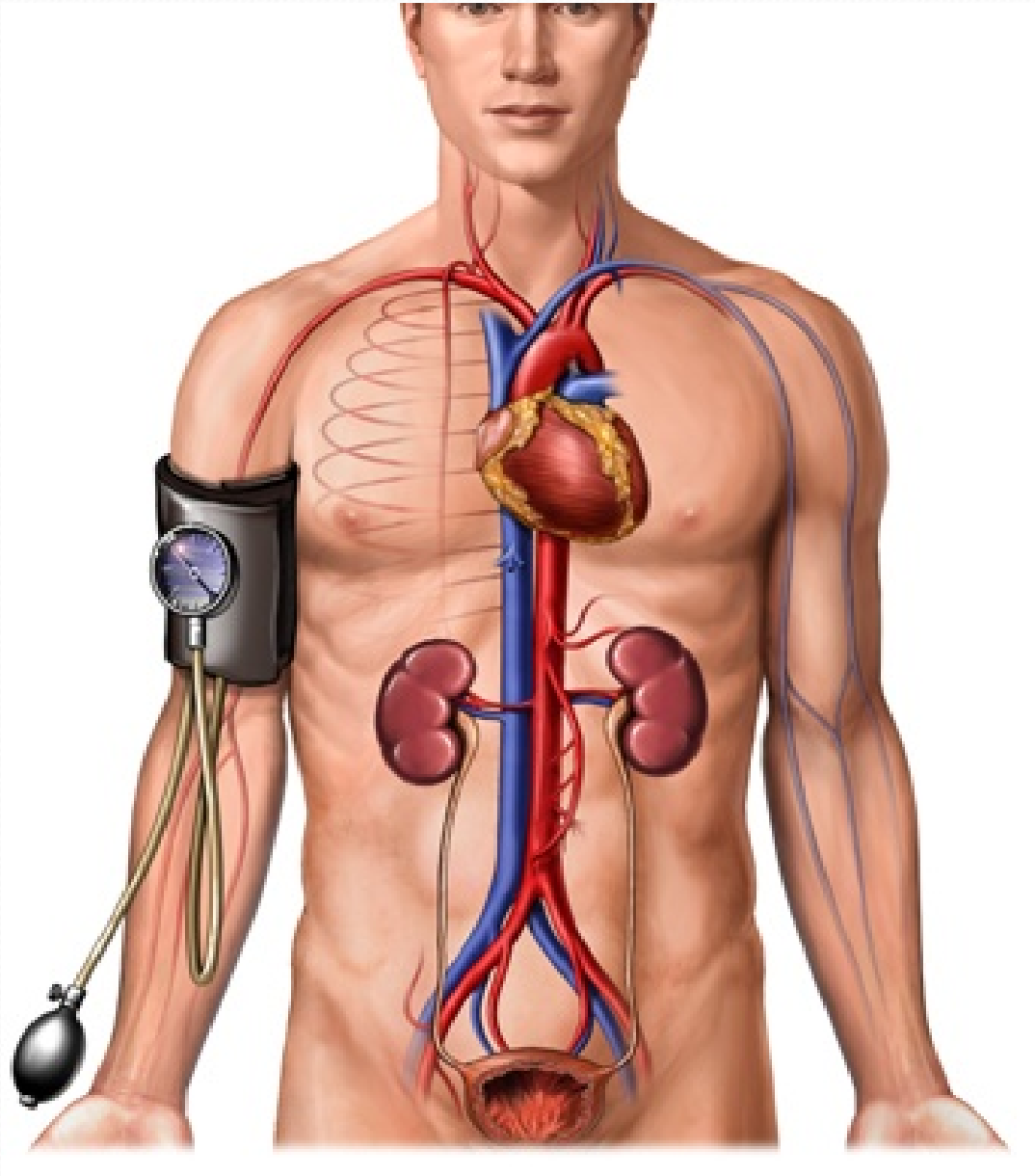
- Monitor your blood glucose as prescribed by your healthcare provider
- Taking insulin or oral diabetes medication as prescribed

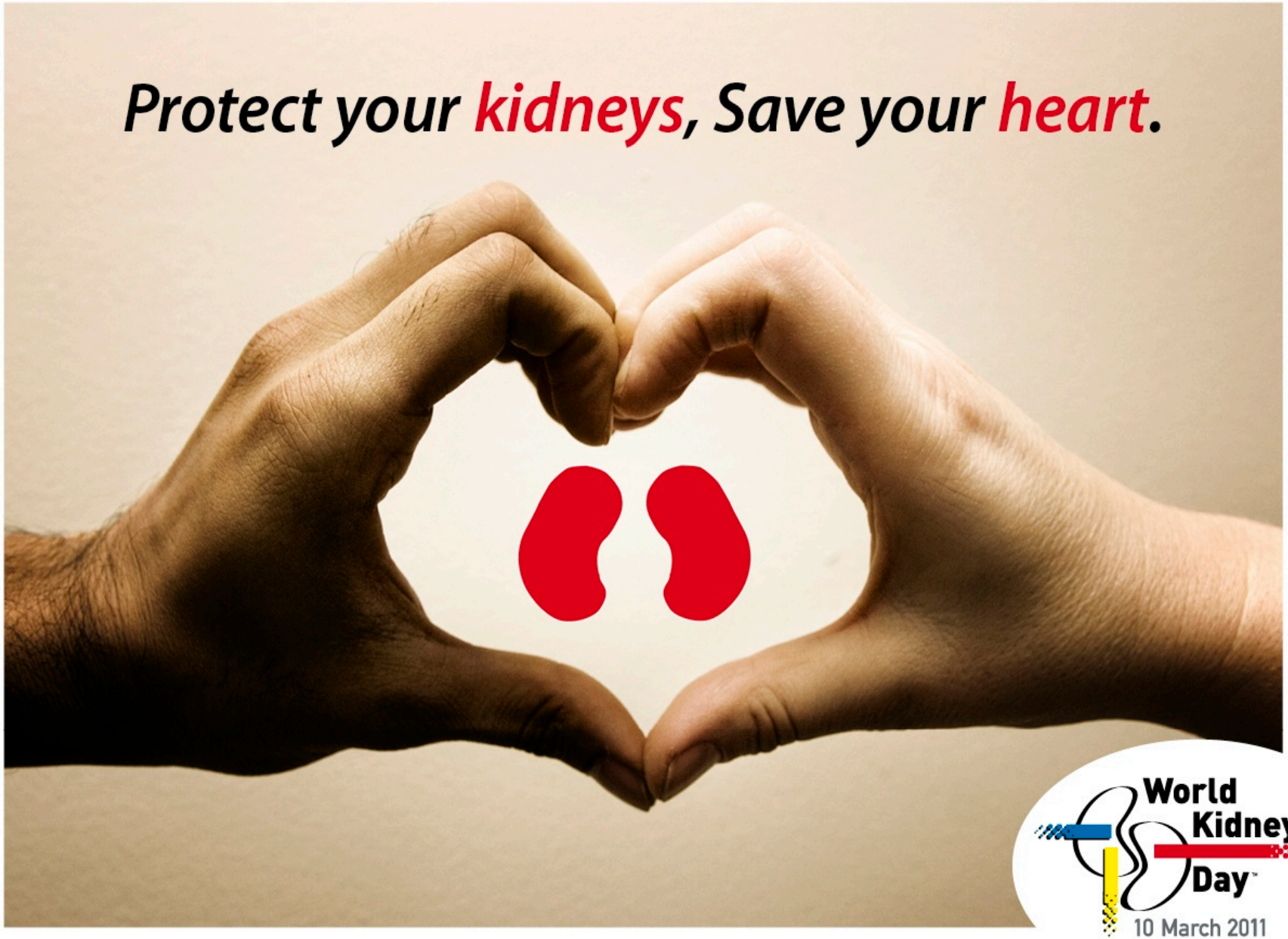
High Blood Pressure-

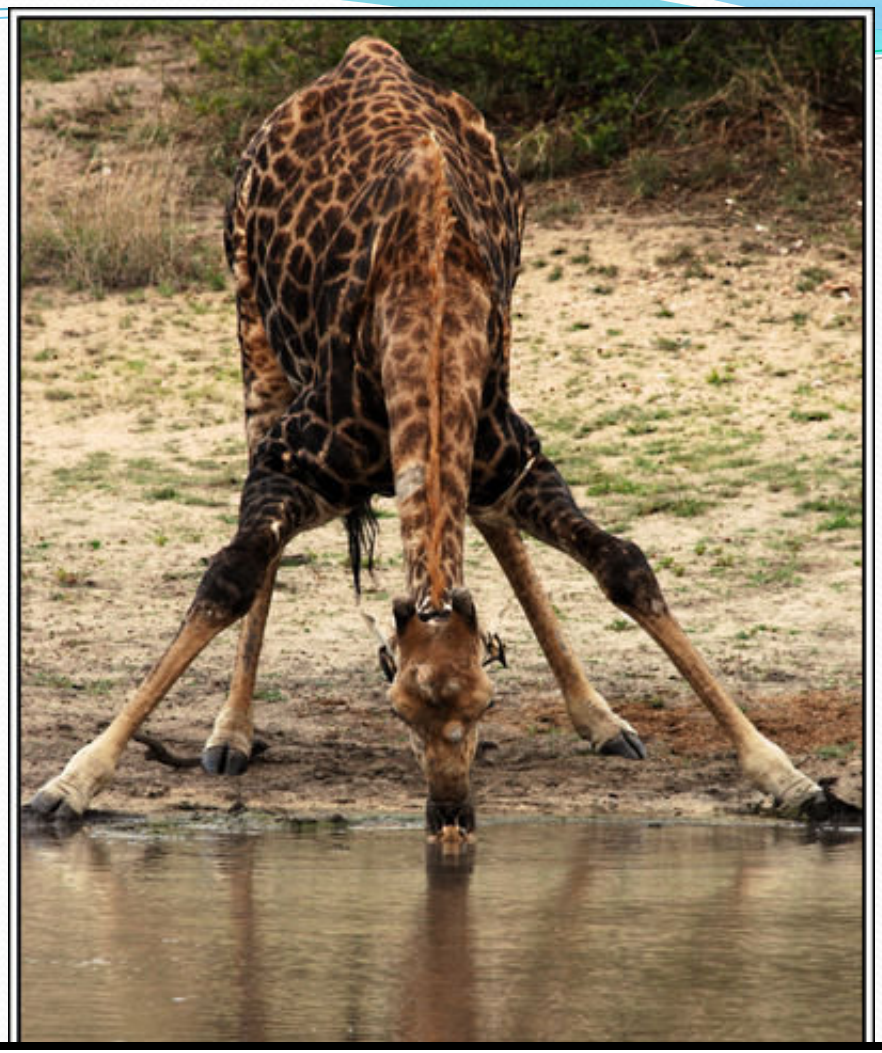
- Monitor your Blood Pressure (Silent)
- Take your medications as prescribed

Everyone

- Eat a heart healthy diet
- Weight control
- Routine exercise
  - Ask how much and what kind is best for you
- Stress Reduction
- Avoid Non-Steroidal Anti-inflammatory Drugs (NSAIDs)
- Quit Smoking
- Control Blood Sugar Level
- Monitor Blood Pressure
- Maintain a Healthy Fluid Intake




Protect your kidneys, Save your heart.
World Kidney Day
10 March 2011



Stay Well Hydrated

(Talk to your doctor about what this means for you)

Maintain A Heart Healthy Diet

- Fresh Fruits and Vegetables
- Low Salt Diet
- Lean Protein Sources
- High Fiber Foods
- Low Concentrated Sweets
- Low Sat Fat/ High “Good Fats”

Take Good Care of Your Kidneys

- See your PCP and Care Givers as recommended
- Be screened for kidney disease
- Control Blood Pressure
- Control Blood Glucose

Take Good Care of Your Kidneys

- Maintain Healthy Body Weight
- Know your numbers
- Set realistic intentions (goals)
- Exercise within your ability
  (discuss with your PCP)

Take Good Care of Your Kidneys

- Take medications as prescribed
- Do not take excessive analgesics

  (such as ibuprofen or naproxen)

Always

Ask questions when you don’t understand.

Internet Resources

National Kidney Foundation

National Institute of Health

American Association of Kidney Patients

American Heart Association

American Diabetes Association

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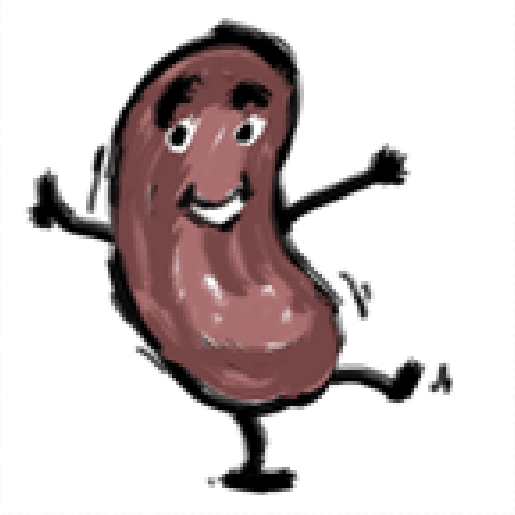

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