Renal Examination

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As you examine, look for the aetiology of the renal disease, graft function (if transplant present) and complications of immunosuppression.

Introduction

- **W**ash hands, **I**ntroduce self, ask **P**atients name & DOB & what they like to be called, **E**xplain examination and get consent
- Expose and lie patient flat

General Inspection

- **Patient**: stable, pain/ discomfort, muscle wasting/cachexia, Cushing's disease signs, confusion, bruises, scratch marks (uraemic puritis), dyspnoea (fluid overload)
- **Around bed:** dialysis machine, fluid charts

Hands

- Postural tremor (calcineurin inhibitor side effect)
- Flapping tremor (uraemia)
- **Nails**: leukonychia (hypalbuminaemia in nephrotic syndrome), koilonychia (iron deficiency anaemia in nephritic syndrome)
- **Fingertips:** fingertip capillary glucose monitoring marks (diabetes)
- **Pulse:** rate and volume (tachycardia and low volume may be blood loss)
- **Arms**: arterio-venous fistula (look for active needlemarks to see if it's being used), bruising (Cushing's syndrome), blood pressure (may be high due to hypertension, a cause for renal disease, in renal graft rejection or due to calcineurin inhibitor), skin lesions (immunosuppression)

Head and Neck

- **Face**: yellow tinge (uraemia), butterfly rash (SLE), hearing aid (Alports), collapsed nasal bridge (Wegeners)
- **Eyes**: periorbital oedema (nephritic syndrome), conjunctival pallor (EPO deficiency), corneal arcus/xanthalasma (hyperlipidaemia in nephrotic syndrome)
- **Mouth:** mucus membranes, gingival hypertrophy (immunosuppressive drugs)
- **Neck:** JVP (fluid overload in nephrotic syndrome)

Chest

- **Inspection**: spider naevi (>5 significant), gynaecomastia (↑oestrogen in liver disease/pregnancy), loss of axillary hair, sternotomy scar (renovascular disease)
- Capillary refill and skin turgor on sternum
- **Heart sounds** (uraemic pericarditis)

Sit forwards:
- **Lung sounds** (pulmonary oedema in nephrotic syndrome)
- **Inspect back:** skin lesions (immunosuppression), spider naevi (>5 significant)

Abdomen

- **Inspection**: distension (Fluid, Flatus, Fat, Foetus, Faeces), scars (loin scar may appear on back; Rutherford Morrison scar in L/RIF from transplanted kidney), fat hypertrophy (insulin injections), lipodystrophy (insulin injections), peritoneal dialysis scar
- **Palpation**: ask pain (start away from painful areas)
    - Superficial palpation (to check tenderness): you crouch to their level and roll fingers over 9 regions while watching the patient's face (painful? Guarding? Tenderness? Rebound tenderness?)
    - Deep palpation: four quadrants (particularly feel for smooth renal graft in iliac fossae if scar present; tenderness = rejection)
    - Kidney palpation: one hand anterior, one posterior. Ask patient to expire and press up into renal angle with posterior hand and press down with your anterior hand – as patient breaths in you may feel it between your hands. Ballot the kidney by flexing the metacarpophalangeal joints of your posterior hand. Do 'flick, flick, stop' and repeat as necessary (palpable = polycystic kidney disease).
- **Percussion**
    - Flank: should be resonant (tap all the way across abdomen horizontally) - if dull, demonstrate shifting dullness (patient roll to side and percuss all way across again) or demonstrate fluid thrill (patients hand hard on abdomen centre line and tap one side and feel other) (ascites)
- **Auscultation**

      o   Renal bruits (1cm superior and lateral to umbilicus bilaterally)

Legs

- Peripheral oedema (fluid overload in nephrotic syndrome or fluid retention in renal graft dysfunction)

To Complete exam

- Thank patient and cover them
- Summarise and suggest further investigations you would do after a full history

Top causes of end-stage renal failure
1. Diabetes
2. Hypertension
3. Glomerulonephritis
4. Polycystic kidney disease