CKD Testing and Diagnosis (Simplified - NICE guidelines NG203)-DRAFT

using **eGFR** -creatinine (blood) **AND** Albumin: Creatine Ratio **ACR** (urine)

SELECT " CKD monitoring (KRFE)" box on ICE (KRFE=Kidney Failure Risk Equation)

increased ACR is associated with increased risk of adverse outcomes
decreased GFR is associated with increased risk of adverse outcomes
increased ACR and decreased GFR in combination multiply the risk of adverse outcomes.

Offer annual CKD monitoring -to risk factor patients:

- AKI- up to 3 yrs post AKI/ Connective tissue disease /CVD /Diabetic/ Gout/ Haematuria / Hypertension/ Proteinuria/ Prostatic hypertrophy /renal disease or FHx of Renal disease
- Patient on nephrotoxic drugs eg. Lithium, NSAIDS, ACE, ARB, Ciclosporin, Tacrolimus
- Children with AKI. Solitary functioning kidney

Test eGFR (blood test)
- No meat 12 hrs before test
- If eGFR <60 as NEW finding
THEN repeat within 2 weeks to exclude AKI
- otherwise if eGFR <60
then Repeat in 90 days (3 months) before diagnosing CKD

Test for proteinuria using ACR(urine test)
- early morning urine sample (ideally)
- if eGFR < 60, diabetic or suspicion of CKD
- if ACR between 3-70mg/mmol- repeat on early morning urine sample
- if ACR> 70 mg/mmol – no need to repeat

Results of eGFR and ACR after 3 months

eGFR≥60 and ACR<3

eGFR<59 (regardless of ACR)

ACR ≥3 (regardless of eGFR)

Do NOT Diagnose CKD
test eGFR annually if at risk

Diagnose CKD
*Classify, investigate, manage
BUT remember to only make diagnosis
after at least **two eGFR readings**
at least **two months** apart

If ACR≥ 3
-check urine dipstick for **haematuria**
- If ≥+1 evaluate further
- do not use microscopy to confirm +ve result

SELECT "CKD monitoring (KRFE)" box on ICE

Stages of CKD and frequency of further Testing								
Stage	**eGFR** (ml/min/1.73m2)	**Description**	**e-GFR** testing		**Proteinuria** annually	**FBC**	**Ca, PO4**	**Vit D**
			ACR<30	**ACR>30**				
1	≥ 90	Normal or increased GFR -with other evidence of kidney damage	12 monthly		√	x	x	x
2	60-89	Slight decrease in GFR - with other evidence of kidney damage			√	x	x	x
3A	45-59	Moderate decrease in GFR - With or without other evidence of kidney damage	12 monthly	6 monthly	√	x	x	x
3B	30-44		6 monthly		√	**FBC** Target Hb10.5 -12.5	**Ca, PO4**	x
4	15-29	Severe decrease in GFR -With or without other evidence of kidney damage	6 monthly	4 monthly	√			**Vit D and may be PTH** Vitamin D management guideline (barnsleyccg.nhs.uk) (see pg 6)
5	<15	Established renal failure	3 monthly		√			

Progressive CKD Criteria

- need three eGFR spread over at least 3 months
- Fall in eGFR of 25% AND change in eGFR category in 12 months
- OR sustained fall in eGFR of 15ml/min/yr.

Risk Factors associated with CKD Progression

AKI- previous episodes, African, African-Caribbean, Asian , CVD, diabetes, hypertension, NSAIDs – chronic use, proteinuria, smoking, urinary outflow obstruction- if chronic an untreated

CKD and Anaemia (Hb < 110g/l)

- if eGFR > 60ml/min consider/investigate other causes of anaemia other than CKD
- if eGFR 30-60ml/min CKD possible cause, still exclude other cause of anaemia
- if e-GFR < 30ml/min CKD most likely cause of anaemia

- **DO NOT** use transferrin saturation/ ferritin alone to assess iron deficiency status in CKD
- if Iron treatment given, ferritin should not rise > 500 mcg/l

BP Targets – (see Hypertension pathway)

- <140/90 if CKD and ACR <70 mg/mmol
- <130/80 if CKD and ACR >70 mg/mmol Type 1 diabetic
- if ACR> 30mg/mmol- offer ACE inhibitors or Angiotensin-receptor blocker (ARB)
-if ACR >3 mg/mmol AND patient Type 1/ Type 2 Diabetes -offer ACE /ARB

- ACE inhibitors- check U+E 7-10 days post / stop when ill/ stop if K +>6 or Cr rise >30 %.

- **Ultrasound –** consider if eGFR <30 ml/min, LUTS, FHx polycystic kidney/ accelerated progress of CKD
- **Statins** for all CKD patients (cannot use QRISK)
- **Antiplatelet meds** – offer for secondary prevention of CVD- be aware of increased risk of bleeding
- **SGLT2 inhibitors** – Empagliflozin **/** Dapagliflozin
  SGLT2i can be started in primary care - but worth noting that empagliflozin also now NICE approved and has slightly broader reach than Dapagliflozin
- -it is an add-on to optimised **standard** care including the highest tolerated licensed dose of angiotensin-converting enzyme (ACE) inhibitors or angiotensin-receptor blockers (ARBs), unless these are contraindicated AND
- for empagliflozin use in CKD- Check TA942 in NICE Guidelines
  https://www.nice.org.uk/guidance/ta942/chapter/1-Recommendations
- Check TA775 for dapagliflozin use in CKD - Check TA775 in NICE Guidelines
  https://www.nice.org.uk/guidance/ta775/chapter/1-Recommendations

Referral Criteria to Secondary Care

- Advanced – **CKD 4/5**. However many elderlies with **stable CKD 4 do not need referral.**
- A **5-year risk of needing renal replacement therapy of greater than 5%**
  (measure using the 4-Variable Kidney Failure Risk Equation)
  The Kidney Failure Risk Equation
- Deteriorating and heavy proteinuria (**ACR>70 and not due to diabetes**)
- **ACR>30 mg/mmol + hematuria**
- Sustained **decrease in GFR of 25% or more**, and a change in GFR category
- Sustained **Rapidly declining eGFR of 15ml/min or more/ year**.
- Consider Referral if **resistant hypertension** – despite four antihypertensive.
- Known / suspected rare or **genetic cause of CKD**.
- Suspected **renal artery stenosis**.
- Refer patients with CKD and **renal outflow obstruction** to urology services.
- Consider **discussing management with a specialist** via Advice & Guidance in ERS if there are concerns but the person with CKD does not need to see a specialist.

Main message : SELECT CKD monitoring (KRFE) box on ICE (KRFE=Kidney Failure Risk Equation)
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