CHRONIC KIDNEY DISEASE
QUICK REFERENCE QUIDE for the PRIMARY CLINICIAN
(derived from the National Kidney Foundation KDOQI Clinical Guidelines)

UNYNET
The Upstate New York Practice Based Research Network

DIAGNOSE CKD:

Target Patients with Hypertension, DM, Family history of CKD
Screen by using GFR (eGFR) and random urinary albumin/creatinine ratio (ACR) annually
CKD Diagnosis**:**

- eGFR < 60 (lasting more than 3 months) or
- Microalbumin/creatinine ratio >30 mg/g (lasting more than 3 months)

TAKE 7 ACTION STEPS (If eGFR <60):

1. REFER TO NEPHROLOGIST IF:

- eGFR <30ml/min
- Marked proteinuria out of proportion with decreased GFR. Albumin-creatinine ratio>1000 mg/g
- Rapid decline in eGFR
- Abnormal urinalysis (persistent hematuria and/or proteinuria)
- Resistant hypertension: above target on 3 or more meds.
- Recurrent renal calculi
- PTH>100 or PO4>4.6
- Refractory Hyperkalemia K>5.5
- Transplant evaluation for eGFR <20

2. TAKE OFF UNSAFE MEDS:

- No NSAIDS and No COX-2 inhibitors for eGFR < 45
- No METFORMIN for eGFR <45
- Reduce Allopurinol dose to 100 mg/day in general dose adjust for kidney function.
- Be careful with Bisphosphonates. Do not use if GFR < 30
- No oral phosphate preps like Fleets visicolfor colonoscopy
- Be careful with IV contrast and gadolinium

3. START ACE inhibitor OR ARB unless contraindicated (**see special cases**)

4. BLOOD PRESSURE CONTROL < 140/90

5. GET LAB TESTS:

- CBC, CMP, Lipid profile every 6 months
- HbA1C if DM every 6 months
- Urine Microalbumin/Creatinine ratio (ACR) every 6 months
- Calcium, PO4, PTH and 25 OH Vitamin D. yearly
- eGFR every 6 months

WHAT TO LOOK FOR IN LAB TESTS

ANEMIA:
Hemoglobin < 12 (indicates anemia – **see special cases**)

DIABETES:
HBA1C > 8.0

LIPID CONTROL:
HDL < 40
LDL > 100 (CKD is a coronary artery disease CAD equivalent)
Triglycerides > 150

BONE DISEASE:
Ca++ < 8.5
PO4 > 4.6
PTH > 100
25 OH Vit D < 30 (**see special cases**)

6. "SAVE the VEINs" AVOID PICC LINES IF GFR< 60 (**see special cases**)

SPECIAL CASES

ACE inhibitor/ARB use

- These are safe and effective at preventing progression of CKD at least up to a creatinine of 3.5 or eGFR of 20ml/min (At this level, a nephrologist should definitely be involved in care)
- There may be a decrease of 25% in GFR after initiating ACEI/ARB . This is OK provided it stabilizes and actually portends a better prognosis.
- A decrease greater than 25% however requires a stoppage of ACEI/ARB and a work up for renal artery stenosis
- Stop if hyperkalemia (K>5.5) occurs. (Particular care must be taken for the patient with CKD who is on an ACE and spironolactone, as both drugs may raise K+)

ANEMIA

- Get Iron/TIBC (Ferritin optional)
- If serum iron/TIBC < 20%, patient is iron deficient
- Rule out colon cancer by colonoscopy
- Replace iron until Iron/TIBC >20
- If Hb is < 9, start erythropoietin or refer to Nephrology
- For example, write a prescription for either Darbepoietin 40ug or Erythropoietin 10,000 units sub Q q 2 weeks
- Monitor CBC monthly and iron/TIBC every 3 months. Keep iron/TIBC> 20% and Hb between 9-11
- Avoid or hold erythropoietin if Hgb >11

"SAVE the VEINs" and AVOID PICC LINES: Education for Patients

- "Fistula first, catheters last"
- Have all blood draws done from the back of the hands. IVs should be as distal as possible. This will preserve the maximum number of veins for possible future dialysis. Avoid PICC lines. Use a central line if long term vascular access is needed.

VITAMIN D DEFICIENCY

- Write prescription for Ergocalciferol 50,000 units monthly by mouth or
- Or use 2,000 units Cholecalciferol (Vitamin D3) orally every day
- Recheck 25 OH Vit D, Ca++, PO4 in 3 months
- If < 30, give 25 OH Vit D 50,000 units weekly for 6 weeks; recheck 25 OH Vit D
- Once > 30, continue supplementation indefinitely

EGFR OR UACR	CKD STAGE	ICD 10 CODE
Egfr >60 and UACR< 30	No CKD	No CKD
Egfr>60 and UACR >30	2	N18.2
Egfr =30-60	3	N18.3
Egfr= 15-29	4	N18.4
Egfr < 15	5	N18.5
On Dialysis	ESRD	N18.6