

CKD 5/End Stage Renal Disease/Dialysis Care Guide

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CALIFORNIA CORRECTIONAL
HEALTH CARE SERVICES

Information contained in the Care Guide is not a substitute for a health care professional's clinical judgment. Evaluation and treatment should be tailored to the individual patient and the clinical circumstances. Furthermore, using this information will not guarantee a specific outcome for each patient.

Refer to "Disclaimer Regarding Care Guides" for further clarification.

<https://cchcs.ca.gov/clinical-resources/>

SUMMARY

GOALS

- ✓ Appropriately refer to Nephrologist and for Dialysis Access
- ✓ Recognize End Stage Renal Disease (ESRD) as a strong risk factor for Atherosclerotic Cardiovascular Disease (ASCVD)
- ✓ Preserve residual renal function as long as possible on hemodialysis (HD)
- ✓ Assess for transplant candidacy
- ✓ Recognize and promptly refer HD access complications
- ✓ Understand management of HD complications
- ✓ Coordinate Palliative and End of Life Care

ALERTS

- If signs/symptoms of uremia present, refer to higher level of care (HLOC) for HD start
- If hyperkalemia, decompensated or new onset congestive heart failure (CHF/dyspnea/fluid overload), refer to HLOC, HD start imminent
- Alert nephrologist for clinical or radiographic evidence for volume overload/depletion, inability to control hypertension (HTN) or metabolic issues
- **Avoid Tunneled Dialysis Catheters**—high mortality and morbidity
- ESRD with microhematuria needs cystoscopy and ultrasound (US) to rule out renal cell carcinoma (RCC) or other uroepithelial carcinomas
- Estimated glomerular filtration rate (GFR) < 20 ml/min can be considered for a referral for transplant evaluation

DIAGNOSTIC CRITERIA

- **ESRD** is a progressive disease defined as kidney failure and GFR < 15*. When **uremia**[†] presents, long-term dialysis or kidney transplant is ultimately necessary to sustain life. ESRD = stage 5 chronic kidney disease (CKD 5), which may be further classified as non-dialysis (5ND), dialysis (5D), and transplant (5T).
- Patients in earlier stages (CKD 3-4), if associated with albuminuria, are at very high risk of progression, and that risk is directly proportional to the degree of albuminuria.
- Obtain renal function labs and urine albumin to creatinine ratio (UACR) at presentation and quarterly. Frank proteinuria: Use the protein-creatinine (UPCR).
- ***GFR** is measured in mL/min/1.73 m².
- † **Uremia**: a clinical syndrome produced by the toxic effects of abnormally high concentrations of nitrogenous substances in the blood as a result of the kidney's failure to expel waste products by way of the urine.

Classification of Kidney Disease by GFR

Stage 1: GFR value mL/min/1.73m² > 90 – Normal or high function

Stage 2: GFR value mL/min/1.73m² 60-89 – Slightly decreased function

Stage 3a: GFR value mL/min/1.73m² 45-59 – Mild to moderately decreased function

Stage 3b: GFR value mL/min/1.73m² 30-44 – Moderately to severely decreased function

Stage 4: GFR value mL/min/1.73m² 15-29 – Severely decreased function

Stage 5: GFR value mL/min/1.73m² < 15 – Kidney failure

EVALUATION

- **History**: Symptoms of uremia are non-specific and may include one or more of the following: weakness, anorexia, fatigue, nausea and vomiting (N/V), reversal of sleep patterns and fluid retention/dyspnea. Advanced disease may be associated with chest pain, mental status changes, paresthesias, and seizures. Urine volume.
- **Physical**: Assess volume status (jugular vein distension [JVD], pulmonary, cardiac, edema, skin turgor), evidence for serositis (rub) and evaluate vascular access (if present). See detailed vascular

access exam on page 3 and Attachment B.

- **Labs:** CBC and CMP are the most critical to obtain immediately. HIV, HBV (HBsAg), and Hepatitis C studies are needed for acceptance by the HD provider. Other studies (phosphate, iPTH) will not affect immediate management. See pages 5 and 12.
- **Diagnostics:** Electrocardiogram (EKG) for electrolyte abnormalities and chest X-ray (CXR) for shortness of breath/concern for effusions. See page 18.

TREATMENT

- Identify and mitigate factors that may cause a more rapid decline in renal function. Delay HD start as long as possible as there is no benefit to “early start of dialysis.” See pages 7 and 8.
- Treatment is renal replacement therapy (RRT): HD and/or renal transplant (RT). Peritoneal dialysis is not an option in CDCR.
- Nephrologist generally manages anemia, hyperkalemia, hyperparathyroidism, metabolic bone disease (MBD), and metabolic acidosis. Primary Care Providers (PCPs) will manage underlying co-morbidities such as HTN, lipids, diabetes, and ASCVD.
- When HD is recommended, the dialysis nephrologist and PCP manage graft complications. Keep communication lines open.
- Administer recommended immunizations, especially if under RT evaluation. See Attachment A.
- Central transplant team will automatically screen all ESRD patients for referral to transplant center. A Request for Service (RFS) is not required.
- End of life care (see page 22). Engage in a frank discussion regarding dialysis as a choice, especially for elderly patients with conditions that affect both quality as well as anticipated quantity of life.

MONITORING

Monitor for:

- **Symptoms which may indicate need for HD. See page 7.**
- Medications which should be avoided, used with caution, or require dose adjustments. See pages 27-29.
- Acute and chronic complications of ESRD. See pages 16-20.
- Factors which may affect residual renal function. See page 15.
- Vascular access complications. See Attachment B.
- Control of underlying conditions: HTN (goal BP < 130/80 if tolerated, otherwise < 140/90), DM (7-8% or set target, see precautions on over-aggressive DM control, page 18), autoimmune disorders, etc.
- Contraindications/concerns or sentinel events that may impact a patient’s suitability for renal transplant. Please contact the RT team (CPHCSTransplantProgramCoordinator@cdcr.ca.gov).