Algorithms can be used to graphically represent specific considerations and actions in clinical care. This toolkit contains five algorithms that address clinical problems in the care of patients with advanced CKD:

- Anemia
- Hypertension
- Bone Disease
- Nutrition
- Lipids

All are based on an RPA Clinical Practice Guideline (RPA Clinical Practice Guideline #3, October 2002).

**Pointers for effective use of this tool:**

- These algorithms should be considered models for decision-making, memory aids, and resources for standardizing procedures, especially useful for ancillary personnel. They are not a substitute for your professional clinical judgment.
- The algorithms can be customized by using the MS-Word version of the algorithms, for example:
  - Changing its format by enlarging or laminating it to suit your purpose (e.g., placing in your examination rooms)
  - Modifying certain aspects of the algorithm

ALGORITHM FOR MANAGEMENT OF ANEMIA

1. Iron deficiency=TSAT <20% or ferritin <100 mcg/mL

1. RPA CPG #3: Appropriate Patient Preparation for Renal Replacement Therapy.
Therapeutic lifestyle changes (TLC) include weight reduction, the DASH diet, salt restriction, physical activity, and moderation of alcohol. (JNC-VII)

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ALGORITHM FOR MANAGEMENT OF BONE DISEASE

1. High iPTH level: >100 pg/mL or >1.5 times the upper limit of normal for each assay used
2. High Phosphorus level: >4.5 mg/dL
3. Decreased 25(OH) vit D: <30 ng/mL

NB: Caution should be used with vitamin D analogue when serum calcium is in the upper range of normal.

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Malnutrition = Unintentional decrease in body weight by more than 5% OR decrease in serum albumin (<4.0 g/dL for Bromo-Cresol-Green or <3.7 g/dL for Bromo-Cresol-Purple) or decrease from baseline by >0.3 g/dL with either assay.

Dietary recommendations include energy intake >30-35 kcal/kg body weight/day, and protein intake ≥0.6 g/kg bodyweight/day.

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ALGORITHM FOR MANAGEMENT OF DYSLIPIDEMIAS

1. Monitor for dyslipidemia at presentation, 3 months after change in status and annually thereafter. Measure triglycerides, LDL, HDL, total cholesterol

2. Patient has dyslipidemia?
   - Yes
   - No

3. Evaluate for secondary causes (comorbidities* and medications**)

4. Secondary cause identified?
   - Yes
     - Manage secondary cause
   - No
     - Treat dyslipidemia***

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* Comorbidities = hypothyroidism, diabetes mellitus/hyperglycemia, nephrotic syndrome, alcohol excess, chronic liver disease

** Medications = beta-blockers, diuretics, corticosteroids, calcineurin inhibitors (especially cyclosporin), sirolimus, oral contraceptives, anticonvulsants, antiretroviral therapy

*** Suggested target levels = LDL <100 mg/dL, non-HDL cholesterol <130 mg/dL, fasting triglycerides ≤500 mg/dL

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