CLINICAL RECOMMENDATIONS FOR THE TIMELY EVALUATION, TREATMENT, AND REFERRAL OF PATIENTS AT RISK FOR RENAL FAILURE IN PRIMARY CARE

OVERVIEW

- Research has shown that the social and psychological welfare and quality of life of the dialysis patient are favorably influenced by the early, predialytic and continued involvement of a multidisciplinary renal team.
- Two-thirds of End Stage Renal Disease (ESRD) is due to two primary diseases: diabetes mellitus and essential hypertension. Patients who present a strong risk of developing ESRD benefit from a coordinated treatment and follow-up program prior to its onset.
- Emergency dialysis jeopardizes the choice for modality of dialysis, endangers the ability to maintain prolonged vascular access, precludes psychological preparation of the patient for ESRD care, and necessitates hospitalization for a catastrophic complex illness.
- The primary care physician can strongly impact the potential dialysis candidate’s disease progression through clinical management of early stages and timely referral to specialists when appropriate.

EARLY MEDICAL INTERVENTIONS in the PREDIALYSIS PATIENT

- **Reverse hypertension**
  Evidence suggests that aggressive therapy of hypertension in the predialysis period delays progression of renal disease and is the most potent intervention to decrease subsequent cardiovascular mortality in dialysis patients. It has been proposed that delay of adequate therapy or failure to lower blood pressure to normal over several years results in changes that become irreversible or only slowly reversible on dialysis. The goal of therapy is a normal systolic and diastolic pressure.

- **Manage diabetes early**
  Patients with diabetes should be placed on a program of strict glycemic control and follow-up of potential microvascular and renal complications, such as micro or gross albuminuria. Microalbumin measurement is suggested to be done annually in the absence of previously demonstrated microalbuminemia. Careful control of blood pressure, promotion of smoking cessation, and correction of obesity upon diagnosis of diabetes mellitus is crucial.

- **Prevent severe anemia and reverse its associated complications**
  Studies suggest that aggressive treatment of anemia in the predialysis period is as important as during dialysis. Longstanding Left Ventricular Hypertrophy (LVH) associated with anemia may be poorly reversible or irreversible if therapy is delayed until the commencement of dialysis. Correction of anemia also appears to improve or maintain functional capacity, nutritional adequacy, sexual function, and psychological health. It also reduces the risk of hepatitis and sensitization to transplant antigens associated with transfusion. The predialysis patient should be evaluated for other causes of anemia besides the renal failure, and any nutritional deficiencies should be corrected. As the anemia worsens, the physician should initiate therapy with subcutaneous erythropoietin. At present, it is recommended that the hematocrit be maintained above 30 percent.

- **Correct nutritional deficiencies**
  A nutritional assessment by a trained dietitian should include as a minimum: weight, height, recent weight loss, upper arm anthropometry, and serum proteins (albumin, transferrin, and/or prealbumin). In the absence of obvious malnutrition, a modest protein-restricted diet of 0.7 to 0.8 g of protein/kg/day will provide good nutrition. When malnutrition is present, emphasis on adequate caloric intake, greater amounts of dietary protein of up to 1.2 g/kg are called for in order to allow nutritional repletion or to counter the catabolic effects of stress. The dietitian should also design dietary prescriptions for energy, fat and carbohydrate, fluid, sodium, and phosphate, as well as other micronutrients. Lipid abnormalities such as hypertriglyceridemia, reduced high-density lipoprotein (HDL) cholesterol, and elevations in lipoprotein(a), are common in ESRD, but there are limited data supporting the efficacy of diet or drug therapy, and there is some evidence that the drugs usually employed have more serious side effects.
EARLY MEDICAL INTERVENTIONS in the PREDIALYSIS PATIENT, Continued

- **Prevent or reverse secondary hyperparathyroidism and treat metabolic acidosis**
  Factors mediating renal osteodystrophy present early in the course of progressive renal disease and need to be managed throughout the entire predialysis course. Preventing the ravages of severe, potentially irreversible secondary hyperparathyroidism with dietary phosphate restriction before the serum phosphate is elevated is a maneuver all patients should be instructed in. Calcium-containing phosphate binders should be initiated when minimal elevations of phosphate are evident. Vitamin D supplementation should be initiated appropriate in a renal independent form (e.g. Rocaltrol).

- **Optimize quality of life**
  Quality of life should be given strong consideration in the decision to initiate dialysis. Maintenance of physical strength, appetite, and sense of well being, as well as optimal physiologic functioning promotes interpersonal relationships with family and friends as well as rehabilitation and job retention in the working patient. As the likely need for dialysis approaches, preparation of the patient by introduction to various aspects of the therapy, to members of the renal team, and to the physical site of the therapy, as well as to other patients undergoing dialysis will generally facilitate acceptance and compliance. Early intervention provides the opportunity to discuss the characteristics of the various modes of the therapy in order to involve the patient in this selection.

- **Facilitate predialytic initiation of dialysis access**
  The benefits of early establishment of vascular access should be emphasized. Arteriovenous (A-V) fistula surgery must occur weeks to months before the initiation of dialysis to permit maturation of the fistula. Likewise, a peritoneal dialysis catheter should be placed at least one month prior to its anticipated use. Late referral is clearly associated with increased complications, the need for emergency hemodialysis, and possible long-term access problems.

REFERRAL TO A RENAL SPECIALIST

In an effort to reduce morbidity and mortality in patients during the predialysis period, consultation with a nephrologist is recommended as following:

<table>
<thead>
<tr>
<th>Creatinine Level</th>
<th>GFR Rate</th>
<th>Consultation to Nephrologist Expected or Suggested</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5mg/dL (females)</td>
<td>≤50-70 ml/min</td>
<td>Suggested*</td>
</tr>
<tr>
<td>2.0mg/dL (males)</td>
<td>20-40ml/min</td>
<td>Encouraged**</td>
</tr>
<tr>
<td>2.0mg/dL-5.0mg/dL</td>
<td>≤20 ml/min</td>
<td>Expected*</td>
</tr>
</tbody>
</table>

Consultation with a nephrologist is expected under the following circumstances:

*Despite appropriate therapeutic intervention, the patient continues to exhibit:*
  - Unstable blood pressure or persistent hypertension
  - Metabolic acidosis
  - Persistent anemia
  - Inadequate diuresis
  - Persistent evidence of secondary hyperparathyroidism


**This recommendation is based on review of literature and consensus conferences. The National Kidney Foundation is in the process of developing guidelines for this group.
The Renal Team

A renal team, led by a nephrologist, should include a dietitian, a nurse, a social worker, and a mental health professional. The goals of the renal team include:

1. Establishment of a working relationship with the patient and their primary care provider
2. Nutritional modification
3. Provision of information on dialysis access
4. Education of the patient in the various modes of renal replacement therapy
5. Avoidance of potentially nephrotoxic drugs
6. Potential financial support services

When Patients Require Dialysis

More than 260,000 Americans suffer from chronic kidney failure and require some form of dialysis or kidney transplantation to stay alive.


Any provider wishing to receive a free copy of the NKF-DOQI guidelines should contact:

- Amgen, Inc., Customer Service at 1-800-772-6436. Request item # P 30406

To refer Oxford Members with ESRD to Oxford’s Dialysis Case Management Program, call 1-888-201-4256.

We value your input on our guidelines. If you have any questions or comments, please email us at CPG@oxfordhealth.com or write to:

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