Introduction

Adequate dialysis

Adequate hemodialysis can be defined as the amount of dialysis required for optimal patient survival. Patient survival, morbidity and quality of life all have been linked to measures of dialysis adequacy. Thus, it is important to know what adequate hemodialysis means and to be able to prescribe it, deliver it, and monitor its influence on dialysis patient population. **(Franssen, 2006)**

Mortality is easily measured, but morbidity and quality of life are equally important outcomes (but difficult to quantities). Survival on dialysis has increased for all patient groups over the last decades, and is now predominantly determined by co-morbidity.

- Adequate dialysis maximizes well-being, minimizing morbidity, and helps a patient retain social independence.
- Adequate dialysis is not simply a dose of dialysis exceeding a given number, and should not be defined by solute clearance alone.
- Optimum dialysis is a method of delivering dialysis producing results that cannot be further improved.
- Dialysis prescription should be individualized, monitored, and reassessed regularly.

(US Renal Data Systems, 2003)

Dialysis adequacy protocol

- Policy: Patient care staff will evaluate liters processed on an ongoing basis with urea reduction ratio (URR) evaluated monthly. This protocol will be initiated when stated goals are not achieved.

- Purpose : Maintenance on adequate dialysis
- Goals :
  1. Liters Processed to = ordered Qb × ordered time × 1000
  2. Kt/V greater than or equal to 1.3
  3. URR greater than or equal to 70
- General information :
  1. RN to evaluate liters processed.
  2. If desired figure is obtained, continue with same dialysis prescription and evaluate URR monthly.
  3. If desired figure is not obtained, there should be efforts made to optimize blood flow rate starting with the next treatment as well as steps to encourage patient compliance to achieve full treatment time.
  4. URR to be evaluated monthly on all patients.
  5. If URR is equal to or greater than 70% continue with current dialysis prescription.
  6. If URR is less than 70%:
- Steps :
  a) Evaluate access for visible signs of recirculation. Review recent ultra-sonic findings.
  b) Evaluate system for adequate heparinization and adjust per policy if necessary.
  c) Consider prescription change to more efficient dialyzer.
  d) Increase dialysate flow up to maximum flow that machine capability and availability allows.
  e) If all other actions taken, increase time in 15 minute increments up to 5 hours per treatment maximum.
  f) May repeat UIRR with bimonthly draw.

- If bimonthly URR draw reveals URR equal to or greater than 70%, continue current dialysis prescription and check URR monthly.
- If bimonthly URR is less than 70%, increase treatment time in 15-minute increments to a maximum of 5 hours per treatment. If further increase beyond 5hours per treatment is warranted, contact patient's nephrologists for additional intervention.

g) Educate patient on benefits of adequate dialysis and document.

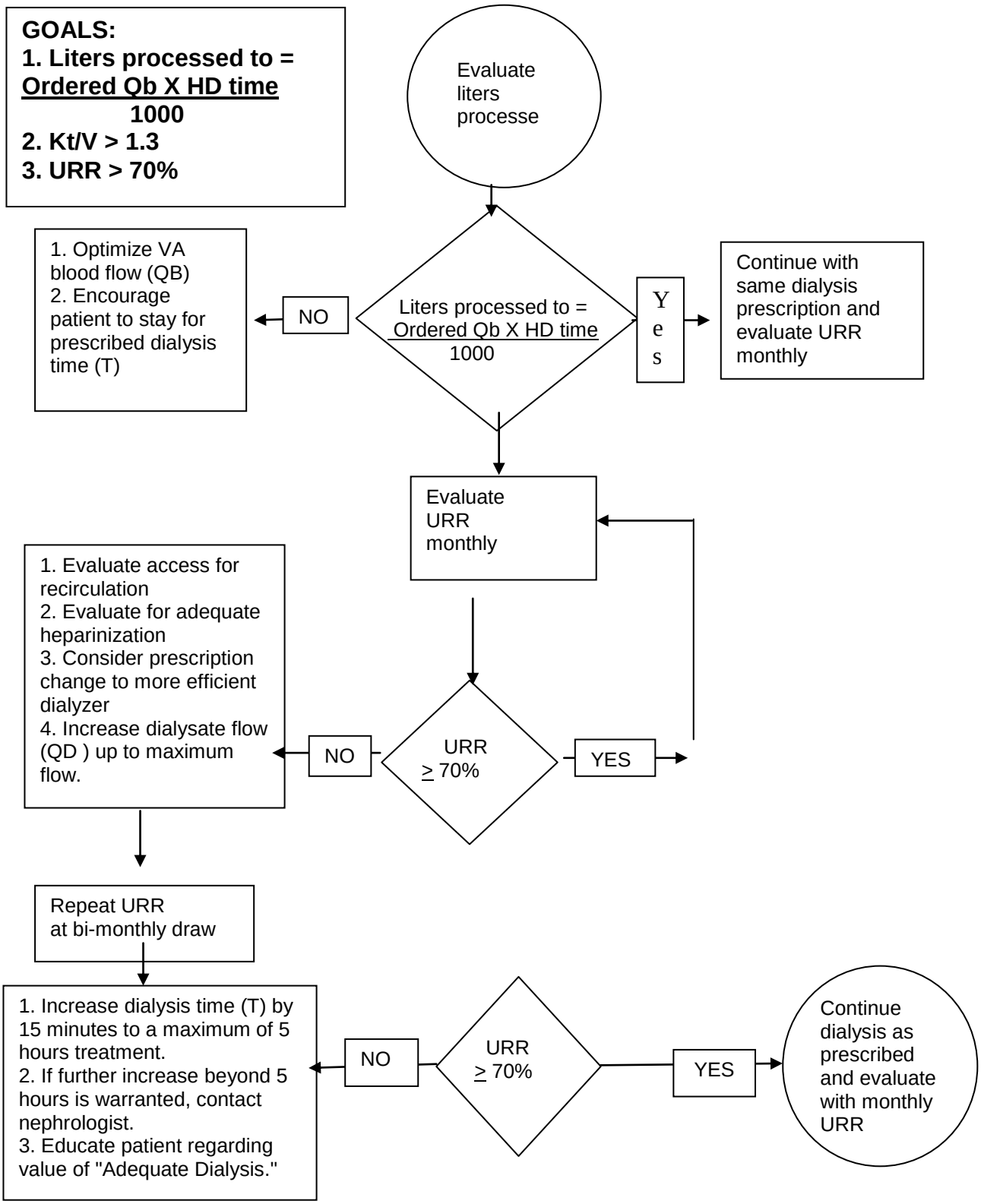
(NKF, 2001)

Assessment of adequacy should include:

- Patient well-being (physically, mentally, socially).
- Nutrition (lack of malnutrition)
- Small solute clearance
- Adequacy of UF
- Control of blood pressure
- Protein catabolic rate
- Clearance of medium sized and large molecules as β2-microglobulin.

(Hakim, 2005)

DIALYSIS ADEQUACY PATHWAY



(NKF, 2001)

Fig. (1.1) Dialysis adequacy pathway.