

# Geriatric Issues in the Elderly Dialysis Population

By Jennifer S. Scherer and Markus Bitzer

The United States ESRD population is aging. Patients over the age of 65 have the highest adjusted prevalence of ESRD (Figure 1) (1). As a result of these demographics, nephrology providers are now faced with the task of recognizing and treating not only the burdens of ESRD but also morbidities associated with geriatric syndromes (Table 1). Prognosis for the elderly encompasses survival as well as effects on quality of life (QOL), cognition, functional status, and time lost from being with family. Treatment choice and follow-up care should address these issues while considering the individual's preferences, physiological state, and social support. Given that elderly dialysis patients will likely die while receiving dialysis, it would be beneficial to discuss end-of-life choices when dialysis is started.

## Unique issues in older dialysis patients

Dialysis therapy does not seem to preserve functional status or independent living for many older patients, with the most vulnerable time being when it is first initiated (2, 3). Older patients receiving hemodialysis (HD) show a high prevalence of functional disability and dependence (3). The consequences of normal aging combined with dialysis-associated adverse events, such as posttreatment hypotension, place an already functionally challenged population at risk for falls. In patients over the age of 65, an accidental fall increases the risk of death in both HD (hazard ratio [HR] 1.78, 95% confidence interval [CI] 1.07–2.98) and peritoneal dialysis (PD) populations (HR 1.62, 95% CI 1.29–2.02) (4, 5). The American Geriatrics Society recommends that all older people be screened for falls (6). They endorse a multifactorial fall risk assessment if the screening results are positive. Empowering members of multidisciplinary dialysis teams to perform fall screenings and functional assessments is a simple way to identify patients appropriate for a more detailed geriatric assessment, and possibly improve QOL.

In addition to functional decline, many ESRD patients are also at risk for cognitive and executive function impairment (7). This deficiency can have an impact on complex thinking, compliance, QOL, and decision-making (7). In a recent study of HD patients, decreased executive function was associated with increased mortality, even with adjustment for comorbidities (7). PD has been shown to have a lower risk of dementia than HD (HR 0.74, 95% CI 0.64–0.86), although both groups have a higher incidence than age-matched control individuals not receiving dialysis (8). Identification of elderly patients with impaired cognition recognizes those who need assistance with decision-making, the responsibilities of dialysis, and caregivers who are at risk for burnout.

## QOL, decision-making, and the individualized geriatric experience

As a result of multi-morbidity, the ESRD experience for the elderly is variable. Unfortunately, current guidelines are disease oriented and with a “one size fits all” approach that pays little attention to QOL. Nephrology providers are challenged to integrate the individual patient's experience into appropriate clinical management.

There is no right answer for an elderly patient. A highly comorbid individual may want a trial of dialysis to enable living to a family milestone. An institutionalized patient requiring rehabilitation may be given more free time with PD. If a patient is interested only in survival, recent work from Korea showed an advantage with HD versus PD

for the elderly, particularly those with diabetes mellitus or a longer dialysis vintage (9). However, this contrasts with older data that showed no difference in survival and, perhaps more importantly, no difference in QOL (10). For those with a high comorbidity burden, including ischemic heart disease, observational data have shown that dialysis does not confer a survival advantage when compared with conservative management with the incorporation of palliative care (11). Additionally, a recent single-center study demonstrated that integrating palliative care with conservative management led to improved or stable symptom control and QOL metrics at 12 months in a majority of patients (11). The individualized nature of this decision emphasizes the importance of communication; yet, older ESRD patients report feeling unprepared for the HD experience (12). Unfortunately, the burdens of dialysis and the option of conservative management are often excluded from conversations about treatment decisions (13).

## Goal-directed therapy: time-limited trials

Given the risk of further suffering from geriatric syndromes in patients receiving dialysis, it is important to check in with patients regularly to assess their dialysis experience. A time-limited trial begins with the identification of patient-specific goals, often relevant to QOL and geriatric syndromes, with planned re-evaluations to assess the patient's perceptions of the benefits and burdens of dialysis (14). This continuous dialogue also allows for a fluid transition into advance care planning. Advance care planning with dialysis patients can promote the use of hospice, a benefit often underused in this population (15). In the general population advance care planning is associated with fewer intensive procedures at the end of life, death at the location of choice, increased patient satisfaction, and increased use of hospice (16).

In summary, the current demographics of ESRD necessitate a cultural shift in care to an individualized approach that incorporates basic principles of geriatric medicine and palliative care. How to best achieve this goal with use of our own dialysis centers' interdisciplinary teams is currently not clear. Although more research and education are needed, it appears obvious that the implementation of geriatric and palliative care principles will enhance current practice and allow the patients' experience to be the largest factor. ●

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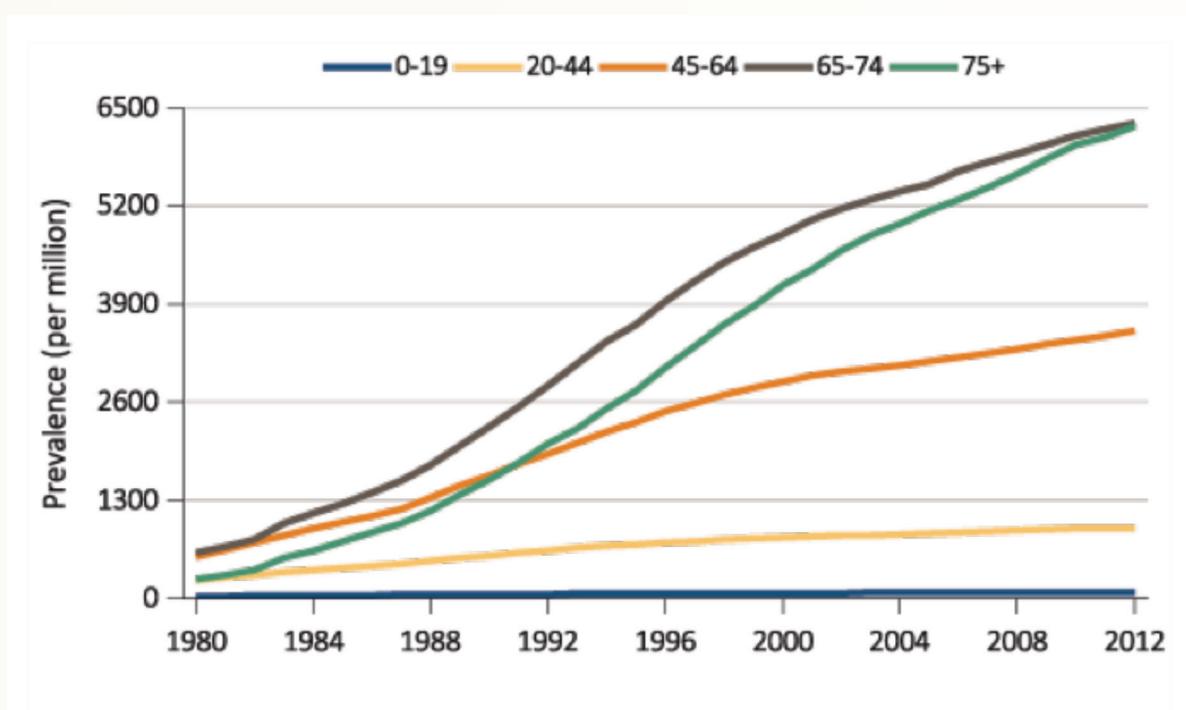
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**Table 1. Common geriatric syndromes**

Falls
Cognitive dysfunction
Gait problems
Vision/hearing loss
Malnutrition

**Figure 1. Adjusted prevalence of ESRD, per million, by age group, in the United States population, 1980 to 2012**



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## Kidney Transplantation in the Elderly

By Aneesha Shetty and John J. Friedewald

### Epidemiology

Although there has been an overall slowing of incident cases of ESRD in the United States during the past several years, the elderly population continues to have the highest incident rates of ESRD (1) (Figures 1 and 2). This has significant implications for transplant centers, which are seeing a continual increase in the age of potential transplant recipients coming for evaluation. The continuing accumulation of data on outcomes in these patients should better inform the risks and benefits of transplantation as therapy for ESRD compared with dialysis. Also, as regulations tighten with regard to observed versus expected outcomes for transplant recipients, elderly ESRD patients face the potential for a decrease in access to transplantation—given their lower levels of graft and patient survival in comparison with younger candidates—despite in many cases still deriving an advantage in survival, quality of life, or both compared with dialysis.

Figure 1. Rates of ESRD in the US

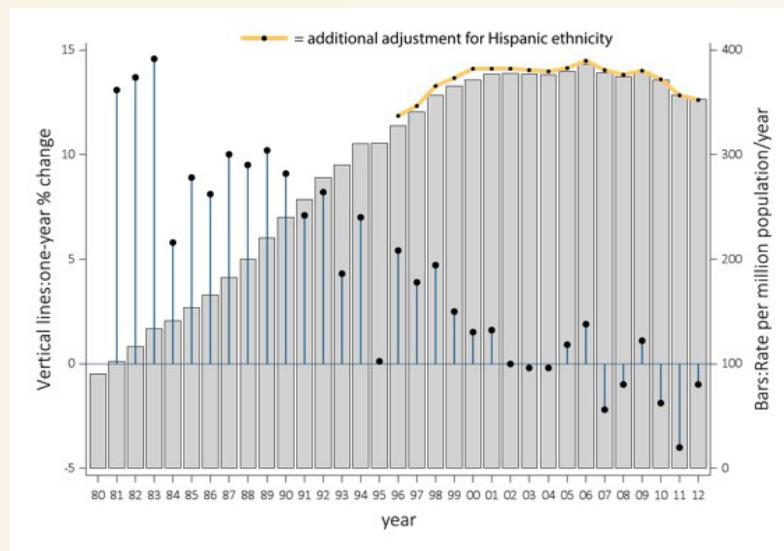
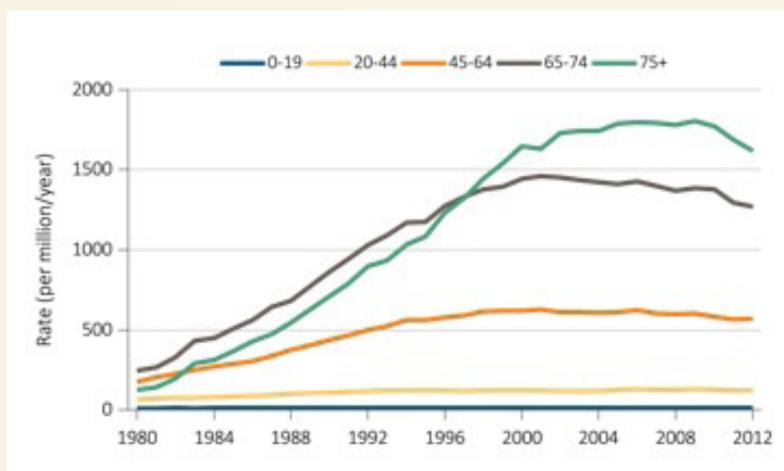


Figure 2. US rates of ESRD by age group



### Candidacy

Kidney transplantation remains the treatment of choice for ESRD in elderly patients, providing a survival advantage and better quality of life when compared with dialysis (2). This benefit is especially seen with early transplantation, often facilitated by shorter wait times with the use of kidneys from donors with Kidney Donor Profile Index (KDPI) higher than 85 or living donor transplants. However, the benefit of transplantation in the elderly is contingent on selection of the appropriate candidate. Advanced age is often considered a relative contraindication for transplantation, but there is much variability in the actual age limit for transplantation among transplant centers in the United States. Moreover, chronological age alone seems to be a less important predictor of poor outcomes after transplantation when compared with factors like comorbidity burden, disability, and frailty. Cardiovascular disease, risk of infection, and malignancy are associated with poor outcomes in elderly transplantation patients and should be carefully evaluated during the pretransplantation screening process. Evaluation of activities of daily living and tests like “Timed Up and Go” are often used as a measure of disability. Assessment of cognitive impairment is crucial in elderly transplant recipients, given the higher risk for dementia resulting from vascular disease and metabolic derangement. Elderly patients are also more at risk for depression and are often in need of greater social support compared with their younger counterparts, and hence should undergo a careful psychosocial evaluation.

### Frailty

Frailty has been recently shown to be an independent predictor of poor outcomes after kidney transplantation, including poor graft function, increased hospitalizations, and perioperative complications (3). The frailty phenotype meets three or more of the following five criteria: weight loss, exhaustion, weakness, slow gait, and decreased physical activity (Table 1) and can be evaluated by the use of different measures. Although frailty, typically characterized by sarcopenia, is often considered a precursor to disability, the relationship between frailty, disability, and comorbidity is complex, as shown by Fried et al. (4) using data from the Cardiovascular Health Study (Figure 3). Evaluation of frailty domains would be an important addition to the pretransplantation screening process in elderly candidates and may allow for better risk stratification and decisions about candidacy.

Table 1. Frailty characteristics

<b>A. Characteristics of Frailty</b>	<b>B. Cardiovascular Health Study Measure<sup>+</sup></b>	males: <383 Keals/week females: <270 Keals/week
Shrinking: Weight loss (unintentional)	Baseline: >10kbs lost unintentionally in prior year	
Sarcopenia (loss of muscle mass)	Grip strength: lowest 20% (by gender, body mass index)	<b>C. Presence of Frailty</b>
Weakness	“Exhaustion” (self-report)	Positive for frailty phenotype: ≥ 3 criteria present
Poor endurance;	Walking time/15 feet: slowest 20% (by gender, height)	Intermediate or prefrail 1 or 2 criteria present
Exhaustion	Keals/week: lowest 20%	
Slowness		
Low activity		