

## In-Center Nocturnal Dialysis Offers Effective, Appealing Alternative to Patients with Kidney Failure

**By Sheila Doss-McQuitty**

*Director, Clinical Programs & Research  
Satellite Healthcare*



When one of our patients learned back in 2003 at age 39 that his kidneys were failing, he embarked on a journey to learn as much as he could about treatment for End Stage Renal Disease (ESRD), and he aimed to lead as normal a life as possible while undergoing dialysis treatment. Today, that means sleeping three nights a week at the Satellite Dialysis center in Oakland, minimal disruption to his personal life, a sense of rejuvenation, and improved medical outcomes.

Some 26 million Americans – about

10 percent of the population – suffer from Chronic Kidney Disease (CKD), according to the Centers for Disease Control and Prevention<sup>i</sup>, and hundreds of thousands of people are currently undergoing dialysis for their ESRD. But as many patients and my professional peers can attest, dialysis is a time-consuming, disruptive process that typically requires patients to go to a center several mornings or afternoons per week for three to five hours at a time. This treatment option obviously complicates patients' lives and often limits their professional opportunities.

But research and anecdotal evidence shows that nocturnal dialysis, whereby patients undergo overnight treatment for six to eight hours in a center while sleeping rather than during the day, offers almost immediate health and lifestyle benefits to patients as well as longer term advantages. Patients receiving daytime hemodialysis report having a longer recovery time than those on nocturnal, who often tell us they can just get up and go and do whatever they want immediately following

treatment.” The patient introduced above, who is now 51, usually feels well enough that he walks 30 minutes home – part of his regular exercise routine – immediately after his nighttime dialysis sessions.

The easier recovery is attributable to slower, longer treatment. Research shows that nocturnal dialysis improves Hemodialysis Product (HDP) scores, figures that measure dialysis effectiveness by multiplying the number of hours per dialysis session by the number of sessions per week squared. A patient who undergoes dialysis for four hours three times a week therefore has an HDP score of 36, and someone who undergoes it a grueling five times a week for three hours has an HDP of 75. But if a patient has dialysis three sessions per week for eight hours, overnight and with slower pump speeds, then they have a healthy HDP of 72.<sup>ii</sup>

Longer sessions mean that there is more time to slowly clear more waste from the blood, with less stress on the heart. Daytime dialysis patients have a KT/V rating (K -

dialyzer clearance; T - dialysis time; V- volume) of less than 1 when the benchmark range is 1.2 to 1.4. But switch a daytime dialysis patient to nocturnal dialysis and he or she will see their ratings surge to the benchmark range, or even as high as 1.8 or 2.0. Moreover, nocturnal dialysis lowers the blood urea nitrogen (BUN) value, an indicator of the amount of urea nitrogen in the blood.<sup>iii</sup>

Longer, slower dialysis helps explain our Oakland patient's experience of rejuvenation rather than depletion now that he's switched to nocturnal dialysis. "Nocturnal gives me the ability to have a life. I really feel the difference in my body than when I was on daytime dialysis," he told us. "When I first began it was an adjustment with the sleep, but then I was able to rest a bit when I got home in the morning and then go to work feeling rejuvenated, with extra energy."

But the advantages aren't just reflected in how the patients feel and their HDP score, KT/V, and BUN values. A study of nocturnal dialysis

patients in France published in the Journal of Nephrology indicates that nocturnal dialysis helps patients live longer. "The difference in survival was mainly explained by lower cardiovascular mortality in the lower pre-dialysis mean arterial pressure subgroup: 12.7 vs. 28.1 cardiovascular deaths per 1,000 patient years."<sup>iv</sup>

Other benefits include a reduction in sleep apnea, which affects almost 50 percent of conventional dialysis patients, as well as a reduction on patients' reliance on medications. Some find they can discontinue phosphate binding medication, and many cardiac patients find themselves swallowing fewer pills. One study even showed that among dialysis patients with high blood pressure, overtime nocturnal dialysis is associated with a significant reduction in systolic blood pressure, allowing many to stop taking blood pressure medication all together – an outcome that has obvious benefits in terms of cost savings.<sup>v</sup>

Given the dramatic impact that nocturnal dialysis can have on

ESRD patients' lifestyles and health outcomes, Satellite Healthcare is invested in offering nocturnal dialysis programs to every patient who could benefit. What we launched as a pilot program in 2003 to explore logistics and feasibility is now one we are working hard to expand, region by region. One feeling many people on dialysis feel burdened by is a seeming lack of options and control over their lives. Letting them know they have alternatives like nocturnal dialysis, and helping them feel empowered to explore them, is central to our mission.

*Visit Satellite Healthcare at [www.satellitehealth.com](http://www.satellitehealth.com).*

<sup>i</sup>CDC, [http://www.cdc.gov/diabetes/pubs/pdf/kidney\\_factsheet.pdf](http://www.cdc.gov/diabetes/pubs/pdf/kidney_factsheet.pdf)

<sup>ii</sup>AAKP, <https://www.aakp.org/education/resourcelibrary/dialysis-resources/item/nocturnal-dialysis-offers-better-health-while-you-sleep.html>

<sup>iii</sup>ibid.

<sup>iv</sup>Journal of Nephrology, 2003; Vol. 16 S.7: S16-S21

<sup>v</sup>AAKP, <https://www.aakp.org/education/resourcelibrary/dialysis-resources/item/nocturnal-dialysis-offers-better-health-while-you-sleep.html>

*Reprinted with permission from the Washington Healthcare News. To learn more about the Washington Healthcare News visit [wahcnews.com](http://wahcnews.com).*