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Synopsis from the article: [Scribner BH, Cole JJ, Ahmad S, Blagg CR. Why thrice weekly dialysis? \*Hemodialysis International\* 2004; 8: 188-192](#)

With growing experience of the great patient benefits of dialysis done more frequently than the conventional three times a week treatment, we are often asked why we stopped at three times a week dialysis in the mid-1960s in Seattle. This paper explains the reasons for this.

Dialysis for chronic renal failure began in Seattle in 1960, when the first patients were treated for 20 to 24 hours every 5 to 7 days using a cooled continuous flow dialysis system run by nurses. With this, patients became sick again a day or so before their next dialysis and so the routine soon became twice weekly dialysis for 10 to 16 hours. Shortly thereafter, because of nerve damage and calcifications, some patients began three times a week dialysis for 8 to 12 hours. All of these treatments were done in the University Hospital or the Seattle Artificial Kidney Center.

With development of home hemodialysis in Seattle in 1964, treatment began as 8 hours of dialysis two or three times a week during the day. When Dr. Shaldon in London began nocturnal dialysis later that year, we followed suit and our patients dialyzed overnight three times a week for 8 to 10 hours. This longer slow dialysis proved so effective in terms of improved control of blood pressure and other medical problems, improved patient well-being and rehabilitation and liberalization of diet that it was soon adopted for all our patients.

It soon became obvious that dialysis was much less expensive in the home than in a center and this would allow treatment for more patients with the limited funds then available. Consequently, in 1967 the Seattle Artificial Kidney Center adopted the policy that all patients must go home and by 1969, only 7 of the 119 Seattle patients were dialyzing in the Center. By 1972, the Center was treating 45 new patients per million population and no longer needed a selection committee as all patients referred could be treated. Of course at that time we were treating very few diabetics and fewer than 10% of our patients were older than 55. Thus, by the time the Medicare ESRD Program began in 1973, three times a week dialysis, usually at home, was the norm in Seattle and had become the best compromise to provide

adequate dialysis and the opportunity to treat the most number of patients with the limited resources available. This regimen provided good dialysis and many of the patients were rehabilitated and able to work, go to school or were active housewives.

The ensuing years saw development of more efficient dialyzers, ever-shortening of dialysis time, and adoption of Kt/V of 1.0 as a measure of adequacy. As a result, the lessons of the 1960s were soon forgotten and most patients gradually came to accept a shorter treatment that was associated with problems during dialysis and feeling rotten for hours afterwards. One notable exception was the program in Tassin, France, which continued to use 5 to 8 hours dialysis three times a week both at home and in the center and has what is probably the best patient survival of any program in the western world.

What does this all mean for patients today who want the best treatment? We now know that more frequent dialysis, long nightly or short daily, is much better than conventional three times weekly center dialysis—but this is not available in most places and is not paid for by Medicare. However, three times a week hemodialysis in the home is paid for, although unfortunately this too is not widely available. What is needed is for patients who want to improve their well-being to agitate locally for access to nocturnal home hemodialysis. This is the best three times a week dialysis available today and there is no reason why it should not be used much more widely than at present. Hopefully, Medicare will soon realize the benefits of more frequent dialysis and will develop a mechanism to pay for this too.

**Commentary by Todd S. Ing, MD**

Dr. Blagg has explained why thrice weekly (3-4 hours for each treatment) hemodialysis treatment regimen came to be the gold standard and why this regimen may not be the ideal one.