key points

SELECTED BY
Dr Peter Saul
GP, Wrexham and associate GP Dean for North Wales

There are approximately 50,000 people in the UK on renal replacement therapy (RRT). In an average GP practice there will be one or two patients currently on RRT and a larger number with progressive chronic kidney disease who will reach end stage renal disease (ESRD). The options for RRT are kidney transplantation, haemodialysis (HD) or peritoneal dialysis (PD).

For many patients with ESRD, treatment at home allows greater flexibility and independence than can be facilitated by inpatient HD. PD can be broadly categorised into two types: continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD). CAPD involves the continuous presence of dialysis fluid within the peritoneal cavity and usually three to four exchanges of fluid daily carried out by the patient. In APD, there are more frequent exchanges (typically overnight) which are controlled by a programmable machine, and often fluid is deliberately left in the abdomen during the day to allow further dialysis. Each PD patient has a personalised prescription depending on their body mass, residual renal function and the physical properties of their peritoneal membrane.

PD is an effective dialysis therapy which may be tailored to suit each patient's work and family commitments. It can be an ideal therapy for independent individuals. PD however does have a limited lifespan and on average patients can have approximately four years of successful PD before needing to switch to an alternative mode of RRT. The contraindications to PD are: an inability to carry out the procedure because of physical, psychological or social issues; being unsuitable for a PD catheter placement usually as a result of previous abdominal surgery; loss of peritoneal function due to previous abdominal pathology or long duration of previous PD.

In home haemodialysis (HHD), the entire process takes place in the patient's home and is initiated and managed by the patient. The patient assesses their need for fluid removal, prepares the machine, establishes access to their circulation (normally by needling their AVF) and self-administers the required drugs. Currently 2% of the HD population dialyse at home and for HHD to be successful, a patient must undertake training in an HD centre. HHD is an option for any motivated patient who can learn the necessary skills to manage their own HD and deal with the potential complications. The strongest clinical argument for choosing HHD is the ability to provide longer and more regular HD sessions. Daily HD results in an improvement in blood pressure control, solute clearance and anaemia management, and thus confers a significant survival benefit to patients.