



## TECHNOLOGISTS

Haemodialysis is an advanced technology requiring high specification dialysis and water treatment equipment. Renal technologists provide equipment management (maintenance, calibration and repair) and Quality Management and Controls Assurance services. The multi-professional role of the technologist includes:

- Education and operational support for people living with kidney disease and the staff who support them;
- Specialist advice on the design, installation and commissioning of new dialysis facilities;
- Administrative and/or IT support.

The range and extent of these services may ultimately be dependent upon which department the technologist is employed by – i.e. Renal Unit, Medical Physics and Clinical Engineering, electrical and biomedical engineering (EBME) or Estates Departments.

Regardless of the employing department the technologist is working for, there will most certainly be a standard or common core of renal-related activities and services that the technologist will be expected to provide.

The Association of Renal Technologists (ART) recommends that all renal clinical technologists are registered with The Register of Clinical Technologists. The Professional Standards Authority (PSA) recommends only the use of practitioners (technologists) who are registered on accredited registers such as The Register of Clinical Technologists.<sup>1</sup>

### 6.1 ROLE OF THE RENAL TECHNOLOGIST

Technical support from suitably trained technologists is of critical importance in the provision of regular dialysis treatment. An important aspect of the role is carried out in the clinical area. Technologists provide advice and support during dialysis to nursing staff and people receiving dialysis at home.

The technical role of both the renal technologist and renal technical manager will be broadly similar, but the technical manager may only commit approximately 50-70% of their time to technical duties. The remainder of their time will be committed to managerial duties ranging from: day to day management of staff; recruitment; asset management and equipment replacement programmes; local renal unit clinical governance and possibly wider governance within their Trust/organisation; and, staff training and development.

As an overview of the role, the renal technologist is responsible for:

- Monitoring dialysis water quality, ensuring governance, quality control and maintenance issues are carried out and reported on;
- Management of risks and contingency plans for plant failures;
- Development and review of equipment, operational policy and practice;
- Asset management, particularly requirements for medical equipment from trial evaluation, procurement, installation, lifetime maintenance and end of life disposal;
- Understanding and adhering to legislation, standards and guidance relevant to a renal technical department;
- Maintaining professional standards required whilst performing their job roles.

#### Staffing levels

Adequate staffing levels need to be considered based on a range of local factors including but not limited to:

- Number of people receiving home haemodialysis;
- Total number of people receiving haemodialysis;
- Number of dialysis stations operating in main and satellite units;
- Level of service provision being delivered e.g. in-house maintenance and maintenance provided under service contract from external providers.

The contribution of renal technologists to other aspects of service delivery and development also needs to be considered.

Based on the analysis data collected and the potential variations in technical services ART recommend the following:

- Where an on-call service is required a minimum of three whole time equivalent renal technologists are required;
- For every thirty (30) haemodialysis machines a minimum of one whole time equivalent renal technologist is recommended.

However, it should be noted that other local factors will influence the whole-time equivalents required. The ratio detailed above (1:30) includes technical managers, where 30-50% of their time is likely to be committed to managerial duties. This therefore impacts on the ratio potentially taking it higher, with consideration given to a ratio being 1:35 being acceptable.

The ratio of 1:35 is therefore given as a recommendation where renal technical teams support only the renal service and provide no support to other areas such as clinical engineering or endoscope washer-disinfector as examples. The ratio is also for whole time equivalents. The number of spare machines and backup/redundancy of central water treatment plants will potentially impact on the workforce requirements and indeed if an on-call service is required or not.

ART therefore recommend that where the number falls below three for services providing on-call or where the number of haemodialysis machines results in a ratio of 1:35+ that units consider adding this to their risk register with rationale and supporting control measures for moving away from the workforce recommendations.

### Education and training

To support renal technologist's admission to the Register of Clinical Technologists accredited register, ART have developed the ART Training Scheme which meets the requirement for registration.

The scheme is a two year post graduate programme of in-post learning, designed to give a comprehensive understanding of the technology and underlying physics involved in Renal Replacement Therapy. It is open to all technologists who have gained General National Vocational Qualification (GNVQ) level 4 academic qualifications in an engineering or scientific subject as a minimum. The advent of modern apprenticeships may further define and shape the entry routes into this profession.

#### Reference

1. Professional Standards Authority. PSA statement on use of Accredited Registers [internet].2017 [cited 2020 July 21]. Available from:<http://therct.org.uk/wp-content/uploads/2017/07/9.1-PSA-statement-on-use-of-AR-registrants.pdf>

**The authors of this chapter wish to acknowledge the contributions of:**

The ART Executive Committee