

CLINICAL PHYSIOLOGY

Sleep disorders medicine is a relatively new clinical discipline (25-30 years) which has been recognised and represented by the British Sleep Society (BSS) www.britishsleeping.org and more recently by ARTP SLEEP, a division of the Association of Respiratory Technologists and Physiologists www.artp.org.uk. These societies currently lead the way in the UK for educational development, research and establishment of standards of care.

Currently the most highly valued qualification for sleep physiologists is the American RPSGT (Registered Polysomnographic Technologist) credential which is awarded by the BRPT (Board of Registered Polysomnographic Technologists). This is an internationally recognised qualification but there are only a small percentage of sleep physiologists in the UK that hold this prestigious award. The Department of Health now recognises sleep physiology as a clinical discipline and it has been incorporated into the Modernising Scientific Careers Programme, albeit linked together with respiratory physiology. It is however unique amongst all the physiological disciplines. Physiologists in sleep medicine are required not only to have an in depth knowledge of normal sleep physiology across the lifespan, but also the intricacies of diagnosis and management of primary sleep pathologies and also the interrelationship with other disease processes such as chronic heart failure, diabetes, neurological and psychiatric disorders and also the medication effects thereof.

Sleep physiologists work autonomously across all areas of sleep disorders medicine. They assist with clinical assessment, physiological measurement & monitoring, diagnosis, management and prevention of the 89 different sleep disorders listed in the ICSD-2. Sleep laboratories in the UK vary with regard to the range of services they offer but a large centre can see and treat over 4 thousand patients per year. They must be familiar and significantly experienced with the specialist diagnostic and therapeutic tools necessary to assist diagnosis and management of sleep patients. Their scope of practice includes proficiency in:

Specialised instrumentation and point of care monitoring to record various parameters during sleep and wakefulness e.g.

- Electrical activity from the brain, eyes and chin muscles,
- Electrical activity from skeletal muscles,

- Nasal and oral airflow, oxygen and carbon dioxide levels,
- Respiratory effort, pulse rate and cardiac cycle (ECG),
- Long term activity/rest data,
- Patient self-reporting diaries & questionnaires;

Complex scoring, analysis and reporting criteria in the evaluation of a range of sleep disorders including sleep related breathing disorders as well as more complex primary and secondary sleep disorders such as parasomnias, hypersomnias and disorders of initiating and maintaining sleep:

- The identification of sleep disordered breathing and application of non-invasive positive pressure therapy according to protocol,
- The interpretation and delivery of a provisional sleep diagnosis to the sleep consultant;

Point of care testing and intervention, often working unsocial hours and in isolation:

- Recognising and responding to critical events during monitoring of cardiac arrhythmias, oxygen desaturations, chest pain, breathing distress, seizures, potentially violent and injurious behaviours and other potential medical emergencies,
- Performing or assisting with basic cardiopulmonary resuscitation if required,
- Set up and analysis of sleep studies in the home or ward based environment as well as in the sleep laboratory;

Initiation and monitoring of treatment for a range of sleep disorders including mechanical assistance, surgery, medications and modifications to behaviour and lifestyle;

Teaching and training also forms a large part of sleep physiologists' responsibilities. This includes the patient population and their relatives or carers and also professional colleagues;

Research and development: proposing and contributing to clinical trials and audits locally, nationally and internationally, paving the way for new technologies and better management and prevention of sleep disorders.