

**ADVANCED TRAINING
IN
COMPLEX ASPECTS
OF NEURO-UROLOGY**

Introduction

After satisfactory completion of core urological training, trainees would undergo speciality training in one or two aspects of more complex urology, in this case neuro-urology.

Neuro-urology

The aims of training in neuro-urology are:

- 1) To improve, knowledge, practice, teaching and research.
- 2) To promote the concentration of expertise and special facilities that will be of considerable benefit to patients.
- 3) To establish a close understanding and working relationship with other disciplines in the field of neuro-urology
- 4) To encourage co-ordinated management of relevant clinical services throughout a region.
- 5) To accept a major regional responsibility for higher training, research and audit in the field of neuro-urology.
- 6) To improve the recruitment of trainees into neuro-urology

Training posts in neuro-urology will be available to specialist registrars who have successfully completed four years of basic urological training. The programme must include theoretical instruction (including the relevant basic sciences), clinical experience in neuro-urology and ideally a research component. Previous research could be taken into account in planning the content of the neuro-urology training programme and may be credited towards part of the programme provided it has led either to a higher degree or a number of significant contributions to the literature..

The trainee's progress will be assessed at the beginning, halfway through and at the end. Progress will be assessed by the trainer looking at operative skills, a log book and portfolio of research. Training will be undertaken in centres that can:

- 1) Provide a service for the referral and transfer of patients who would benefit from sub-specialty facilities, expertise and experience.
- 2) Have established close collaboration with related disciplines to provide a high degree of teamwork and concentration of resources for the intensive investigation and management of such patients.
- 3) To have established close collaboration with other urologists within and without the centre including major regional roles, in continuing postgraduate education and training, research, advice and co-ordination and audit.
- 4) Have an adequate workload providing a full range of experience in neuro-urology. Alternatively two or more centres may combine to provide a programme with all the required experience.
- 5) Have a programme director who will co-ordinate the training programme, accept the main responsibility of its supervision and be actively involved in it. When more than one centre provides the programme there must be a supervisor at each centre with one having overall responsibility as director. Directors and supervisors will be consultants with special experience in neuro-urology.

- 6) Have adequate medical staffing to enable the trainee to be engaged in neuro-urology on a full time basis and provide suitable experience of emergency and on-call work relevant to neuro-urology.
- 7) Have adequate library, laboratory and other resources to support the training programme.
- 8) Provide the resources for a research programme related to neuro-urology.
- 9) Must provide sufficient clinical work, staffing facilities and other support.
- 10) Provide a service for patients with urinary tract dysfunction that arises as a result of neurological disorders. The service must have an adequate clinical workload of cases covering a variety of neurological conditions, notably spinal cord injury, multiple sclerosis and spina bifida.
- 11) Have established multidisciplinary working with colleagues in neurology, spinal cord injury and rehabilitation medicine. Specialist nursing and therapist links are also to be expected.
- 12) Have a full range of diagnostic facilities including urinary tract imaging and advanced urodynamic facilities.
- 13) Offer a full spectrum of management options for lower urinary tract management including reconstructive surgical techniques.
- 14) Provide facilities for the investigation and management of erectile and ejaculatory dysfunction.
- 15) Provide training in the diagnosis and management of disorders associated with the common neurological diseases that will be encountered by the practising neuro-urologist. This will cover management of the neuropathic bowel, spasm, neurogenic pain and the prevention and treatment of pressure sores.
- 16) Produce a training programme timetable that incorporates attendance at a neuro-urological outpatient clinic. Ideally, this clinic should be multidisciplinary with opportunities to consider patient management with spinal injury or neurological consultant staff as well as with the urological trainer. Attendance on multidisciplinary ward rounds would also be desirable; in spinal injury units this should involve a weekly ward round of the unit.
- 17) Arrange additional training opportunities involving the work of non-medical members of the spinal injury or neurological team. These will include outreach nursing staff, physiotherapists, occupational therapists and social workers. Opportunities to observe aspects of the medico-legal process may also be organised.

Training Programme

The following advanced knowledge and skills should be acquired.

- 1) An advanced understanding of neuroanatomy and neurophysiology in relation to the urinary and genital tracts.
- 2) Knowledge of urinary and genital pathophysiology in relation to spinal-cord injury, spina bifida, multiple sclerosis and related conditions. This will include patterns of lower urinary tract dysfunction and their potential impact on the upper urinary tract.
- 3) An understanding of the pathophysiology of erection and ejaculation. This should include knowledge of the treatment of infertility in the male with neurological disease. The effects of such disorders on pregnancy and childbirth should also be appreciated.
- 4) Knowledge of relevant neurological disorders such as autonomic dysreflexia, post-traumatic syringomyelia and hydrocephalus.
- 5) The ability to perform and interpret complex urodynamic investigations including video-urodynamic investigations.

- 6) An understanding of the principles of urological surveillance in the neuropathic patient.
- 7) Knowledge of the initial urological management of a patient with a new neurological deficit such as a spinal cord injury, head injury or stroke.
- 8) Knowledge of the long term management options for patients with neurological disease. This will include the following.
 - a) The use of voluntary voiding in patients with incomplete neurological deficits; the use of pharmacological manipulations to alleviate symptoms and prevent complications.
 - b) Intermittent self catheterisation and the associated pharmacological and surgical interventions that may be required to render the lower urinary tract continent and complication-free. In particular, the role of cystoplasty and the management of sphincter-weakness incontinence (including the use of the artificial sphincter) must be understood.
 - c) The technique of reflex voiding using hyperreflexic detrusor contractions with penile sheath drainage in the male patient including consideration of the management of detrusor-sphincter dyssynergia and the role of external sphincterotomy.
 - d) Sacral dorsal rhizotomy and electrical stimulation techniques. Indications, complications and results of such procedures should be appreciated.
 - e) The indwelling urinary catheter and the prevention and management of related complications.
 - f) Differing techniques of urinary diversion and their application and complications.
- 9) A knowledge of the prevention and management of important complications of the neuropathic urinary tract. This will include.
 - a) Urinary incontinence.
 - b) Urinary tract infection.
 - c) Stone formation.
 - d) Upper urinary tract deterioration due to renal scarring and hydronephrosis.
- 10) An understanding of the general management of patients with spinal cord injury, spina bifida and multiple sclerosis. This will include.
 - a) The acute effects of spinal cord injury.
 - b) The neuropathic bowel.
 - c) Muscular spasm.
 - d) Neurogenic pain
 - e) Pressure sores.
 - f) Autonomic dysreflexia.

Training and exposure in operative urology

This would include:

1. Augmentation cystoplasty
2. Use of artificial sphincter
3. Poserio rhizotomy and use of electrical stimulators (by neurosurgeons)
4. Urinary diversion
5. Continent diversion
6. Other reconstructive techniques

Trainee Year of Training

	Completed by Trainee						Completed by Trainer							
	On appointment			At Completion			Competence level at 6 months				Competence level at 12 months			
	Seen	Assisted	Solo	Seen	Assisted	Solo	1	2	3	4	1	2	3	4
Neuro-urolgy														
Artificial sphincter implantation														
Artificial stimulator implantation														
Augmentation cystoplasty														
Substitution cystoplasty														
Continent diversion														

Date:

Signed Trainee:

Signed Trainer:

LEVELS OF COMPETENCE

- Level 1 Needs training to perform the task
- Level 2 Needs supervision in performing the task
- Level 3 Competent to perform the task unsupervised
- Level 4 Competent to train others to perform the task