Certification and Re-certification in Urodynamics

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1. Aims

There is ongoing concern around the standards of urodynamics (1-5), due to technical issues, clinical interpretation and lack of standardised training and quality assessment. Patients when coming for urodynamics expect those delivering the service to be fully trained, with assurance of competence and quality.

This document proposes a single UKCS Certification and Re-certification process for all health care professionals (HCPs) who perform or interpret UDS. It will be necessary to:

- Ensure that all patients have a safe, high-quality urodynamic assessment test performed, or supervised, by fully trained certified HCPs, that provides valuable information for clinical management
- Use the UKCS Minimum Standards for Urodynamic Studies (UDS) 2018 (6), as the basis for recommended competency based training, that is designed to prepare all HCPs for UKCS Certification and Re-certification. As a guide the document gives suggested numbers.
- Define the necessary urodynamic experience for certified individuals who supervise uncertified HCPs performing UDS tests
- Have certified individuals to act as Clinical Urodynamic Trainers (CUTs) to trainees who wish to perform UDS.
- Assure the quality control of UDS in urodynamic units (UDUs) with the aid of their CUTs prior to commencing the process of training that will lead to Certification.

2. Background

The principal components of the lower urinary tract (LUT) are the bladder (reservoir/pump) and the urethra (valve/outlet), which obey the basic physical laws of hydrodynamics. The measurement of bladder pressure during filling, and both bladder pressure and urine flow during voiding are the only direct means of assessing both the filling and voiding phases of the micturition cycle. This is the accepted method of confirming and quantifying LUT dysfunction (LUTD). It is accepted that LUT symptoms (LUTS) are unreliable in both men (7) and women (8) in diagnosing bladder and urethral dysfunction. For example, LUTS cannot distinguish bladder outlet obstruction (BOO) from detrusor underactivity (DU) during voiding in either men or women (9), and in women the association between OAB symptoms and detrusor overactivity is poor (10) compared to men. It is therefore counterintuitive that urodynamic studies (UDS) have not been shown conclusively to predict outcome, compared to non-urodynamic assessment, and are therefore not mandated in Guidelines prior to invasive treatments (7,8).

Two principal reasons for this were proposed in the United Kingdom Continence Society Minimum Standards for Urodynamic Studies 2018 (UKCS-MS-UDS), published in 2019 (6). These were firstly, the technical quality and interpretation of the UDS, and secondly the training of health care professionals (HCPs) who perform UDS. It was proposed that these factors detract from the clinical utility of UDS. The UKCS 2018 document defined in detail the quality standards for both the UDS themselves, and also for the organisation of the urodynamic unit (UDU). The UKCS is the only national multi-disciplinary society in the UK, concerned with urodynamics and lower urinary tract dysfunction and was established in 2003 as the International Continence Society-UK (ICS-UK), with the name being changed to UKCS in 2007. However, the UKCS has maintained close links with the ICS, who have endorsed the 2018 UKCS-MS-UDS.

There is ongoing concern around the standards of UDS, and since the publication of the UKCS-MS-UDS there has been further evidence of problems in the quality of UDS (1-5). Following the publication of the UKCS-MS-UDS 2018, and in order to address the training issues, the UKCS asked that a unified, cross-professional system of training, leading to certification and re-certification, be produced for Health Care Professionals (HCPs) performing UDS. The UKCS has offered to provide certification to HCPs, on behalf of the relevant professional bodies in the UK.

In the UK, Physiological Measurement Units (PMUs) exist in most NHS hospitals. There are eight recognised physiology measurement disciplines: audiology, cardiac physiology, gastro-intestinal physiology, neurophysiology, ophthalmic and vision science, respiratory and sleep physiology, urodynamics (UDS), and vascular science. Almost all PMUs, except urodynamic units (UDUs), are now staffed by clinical scientists, and each has a Clinical Lead. The clinical scientists have a structured training programme, leading to a Master of Science degree (MSc), and therefore have an excellent knowledge of the technical and clinical aspects of each physiological measurement discipline. In the UK UDUs, the situation is very different. The service is delivered by a variety of HCPs including nurses, doctors and technicians, with few clinical scientists being involved. Only the clinical scientists who have chosen to work in UDUs, have a clear and comprehensive urodynamic training programme. In recent years, gynaecologists and urologists in training have also had a structured assessment for UD competencies, but the curriculum and processes are not as clear as that for clinical scientists. Furthermore, nurses, technicians, and physician assistants who perform UDS in the UK, have no nationally recognised training scheme, mentorship or requirements for continuing professional development (CPD): these groups of HCPs are dependent on other members of the UDU for training, in an unstructured and poorly defined way.

The variation in the structure of training, even though all personnel must perform similar functions, is likely to be a contributing factor to the variable quality of UDS. However, it must be recognised that UDS are somewhat different from many other physiological studies because of the need to reproduce the patient's symptoms, and to have a continuous dialogue with the patient throughout the test, in order to interpret the significance of the test's findings. Therefore, it is important that a member of the urodynamic team, with a sound clinical skill set (see UKCS-MSUDS 2018 (6) Section 3.8) is present during UDS, and is responsible for communicating with the clinical team at the multidisciplinary team meetings (see UKCS-MS-UDS (6) Section 3.10) that are concerned with the ongoing management of patients who have had UDS.

The UKCS believes that the next step in raising the standards of UD testing, is to offer certification to individuals performing UDS. IQIPS (Improving Quality In Physiological Services) already offers accreditation of PMUs, including UDUs, but does not accredit or certify the HCPs performing physiological testing including UDS (https://www.ukas.com/services/accreditation-services/physiological-services-accreditation-iqips/). This certification is envisaged as a quality marker for training in, and performance of, UDS.

There will be two standard (foundation) modules (uroflowmetry and standard urodynamics) and three specialised modules (urethral function tests, video urodynamics and ambulatory urodynamics): these are described in the Minimum Standards for Urodynamic Studies. Those who seek certification for routine urodynamics will need certification in the two standard modules. Those who use the more specialised techniques of urethral function tests, video urodynamics and ambulatory urodynamics will elect to be certified in additional modules that may be developed relevant to their urodynamic practice. Practitioners investigating certain neurological patients, for example meningomyelocele and spinal cord injured patients, should have certification in video urodynamics, as that module covers the urodynamic clinical issues relevant to those patients.

3. Levers For Change

- Urodynamic studies are currently highly variable in both the quality of the test and its interpretation. Evidence for this statement comes from published papers and abstracts, teaching on urodynamic courses, acting as central readers to trials, and reviewing urodynamic traces where a urodynamic question was absent (1-4)
- It is recognised that the variation in the quality of Urodynamics is in part due to the variation in training, supervision, formal assessment of skills, and the lack of ongoing agreed CPD for HCPs who perform urodynamic assessment. The other eight physiology measurement services (PMUs); are audiology, cardiac physiology, gastro-intestinal physiology, neurophysiology, ophthalmic and vision science, respiratory and sleep physiology, and vascular science, and almost all have well developed training and quality assurance programmes, urodynamics has not, and is therefore an "outlier".
- At present, IQIPS accreditation of PMUs is not mandatory, but in the drive to improve patient safety and quality of care, there is likely to be a move towards mandatory accreditation of PMUs by IQIPS, with certification of individuals by a competent body such as UKCS. The Care Quality Commission (CQC) is the independent regulator of health and social care in the UK and visits all hospitals on a regular basis. Increasingly, the CQC, on visits to hospitals, is asking if UDS units are IQIPS accredited. UKCS has been in dialogue with IQIPS, and IQIPS have both this document and UKCS-MS-UDS 2018 (6) for reference if needed.

4. Urodynamic Certification

4.1 Introduction

The environment in which UDS are carried out is important, as described in UKCS-Minimum Standards for UDS 2018 (6) (Section 3). In section 3.6 of that document, key principles were set out for the training of all UD staff. These are:

- Those who have been formally trained serve patients best.
- Training should be competency based, with **structured competence assessments**, which document the trainee's progress until they have **achieved the competencies needed to work independently**.
- Ensuring that proper training is delivered is the responsibility of a UKCS certified Clinical Urodynamic Trainer (CUT)
- Once certification is established, each **Clinical Urodynamic Trainer** must be a **certified urodynamic HCP with at least two years' experience post-certificatio**n. In order to fulfil the role, they must:
    - accept the responsibilities described in the UKCS-MS-UDS 2018 Document (6) (Section 3.1.)
    - have overall supervision of training
    - carry out regular documented and timetabled UD sessions (half days) every year. (A minimum of 20 sessions per year is suggested)

- In the UK, UDSs vary considerably in size, and in the types of patients who have UDS, some see all patient groups, others specialise for example, only seeing neurological patients or only seeing women. Nevertheless, the principles listed above apply to all UDUs. In UKCS-MS-UDS 2018 Section 3.1 the essential responsibilities of the "Director of the UDU" are listed. These do not include delivering training; however she/he may do so and would then have to be a certified CUT. Furthermore, if the Director (Clinical Lead) does not supervise and train uncertified HCPs in UDS, then he/she must delegate this responsibility to a certified CUT.

4.2 Certification Process

Those seeking UKCS Urodynamic Certification should register for certification with UKCS before starting the formal training process.

Certification will be the end point of the formal training process which consists of five stages:

- Stage 1: Passed the Basic Knowledge examination
  - Acquisition of basic knowledge (section 4.3.1)
  - Attendance at a UKCS approved Basic Urodynamics course (section 4.3.2)
  - Pre-urodynamic training (section 4.3.2)
  - Assessment of basic knowledge at a UKCS Online Basic Skills examination
- Stage 2: Completed and passed the Competency Based Assessments (section 4.4)
- Stage 3: Completed the Urodynamic Training Record, including log book, audit and UD cases (section 4.7)
- Stage 4: Attended a UKCS approved Advanced Urodynamics course (section 4.7)
- Stage 5: Passed the Final online examination (section 4.8)

When Stages 1-5 are completed successfully, UKCS Certification is issued

4.3 Stage 1: Basic Knowledge required before starting UDS.

This will be recorded in the Urodynamic Training Record, and include:

4.3.1 Background reading includes, but is not limited, to:

- The ICS Terminology for UDS and LUTD 2002 (11)
- The ICS Technical requirements for UDS 2014 (12)
- The principles described in ICS Good Urodynamic Practices 2002 and 2016 (13,14)
- Classification of UD artefacts (15)
- The United Kingdom Continence Society: Minimum standards for urodynamic studies, 2018 (5)
- The pathophysiology of LUTDs, e.g. (16, 17)
- The principles of managing the common LUTDs: Overactive Bladder/Detrusor Overactivity (OAB/DO), urinary incontinence, Bladder Outlet Obstruction (BOO) in men and women and Underactive Bladder/Detrusor Underactivity (UAB/DU), by conservative measures, drugs and surgery (16 ,17).
- Main indications for UDS in children, men, women and neurological patients (from UKCS-MS-UDS 2018) (5)
- IUGA report on reporting urodynamics in women 2022 (18)

4.3.2 Pre-UD Training

HCPs responsible for UDS should be familiar with handling the UD machine and the equipment used before they perform any UDS on patients. “Hands-on, getting to know your machine” training can come from:

- Attending a Basic Urodynamic Course
- Attending supervised sessions with the accredited CUT

4.3.3 Pre-UD technical skills

The technical skills that need to be acquired before commencing clinical urodynamics are listed below, taken from UKCS-MS-UDS 2018 (6), Section 5:

Technical Skills for Standard Testing:

- Urine flow studies and measurement of post-void residual urine
    - Principles of operation and cleaning of uroflowmeters and ultrasound scanners
    - Able to carry out calibration checks on the uroflowmeter
- Standard UDS: filling cystometry and pressure flow studies of voiding
    - Principles of operation and cleaning of urodynamic equipment
    - Able to perform calibration checks on the pressure transducers and the bladder filling pump

Technical Skills for Specialised Testing (if required):

- Urethral function studies
    - Principles of urethral function studies
    - Principles of operation and cleaning of perfusion pump and withdrawal machine (profilometer)
    - Able to check the calibration of the equipment
- Video UDS
    - Safety issues arising from video UDS using X-ray imaging
    - When and how to obtain the necessary images
    - Able to reset the software to allow for the increased fluid density of contrast medium
- Ambulatory UDS
    - Principles of operation and cleaning of equipment, including use of solid state, air filled, or water filled catheters
    - Able to check calibration of the transducers and operation of the equipment

4.3.4 Core Competencies

Certain competencies are defined and monitored by the employing authority and would not be tested during UD certification. These include:

- Infection Control and Antibiotic Policy
- Manual Handling
- Safeguarding including chaperoning
- Taking patient consent
- Information Governance
- Urinary catheterization
- Radiological training IR(ME)R if X-ray/Video UDS are performed.
- Child Safeguarding (if paediatric urodynamics are to be performed)

4.4 Stage 2: Assessment of Urodynamic Competencies

4.4.1 Urodynamic Competencies

The Urodynamic competencies are as follows:

- All HCPs will be certified to perform **Standard UDS**, defined as:
  - uroflowmetry and ultrasound (US)
  - assessment of post-void residual urine (PVR)
  - filling cystometry
  - pressure-flow studies (PFS) of voiding.
- HCPs are required to know the theoretical aspects of more **Specialised UDS**, defined as:
  - urethral function studies
  - video UDS
  - ambulatory UDS

  as some of their patients will require referral elsewhere for one or more of the specialised studies
- Those HCPs who will be performing Specialised UDS will need to be assessed on the competencies for those tests as listed in 4.5 below
- Competencies will be assessed and signed off by a UKCS certified CUT or by the candidate's supervisor from their recognized training route (see 4.9 below).
- Standard competencies should be achieved in one year and specialised competencies within two years from registering for Certification

4.4.2 Assessment of Competencies

Competencies are graded progressively, with dates of assessments for each stage. Competencies are assessed by "performing the test", as the HCP is performing the clinical procedures, such as catheterisation and the clinical supervision of the test. The HCP will need assessment at each of the four levels with competence at that level signed and dated by the supervising HCP

Competency Levels:

Level 1: Able to observe, and has adequate basic knowledge
Level 2: Able to perform the test with guidance
Level 3: Able to perform the test, but may require assistance and requires guidance to report
Level 4: Able to independently perform and report the test

4.5 Standard Competencies for Assessment

In the UKCS-MS-UDS 2018 (6) the document details the Technical Skill Set (Section 3.7) and the Clinical Skill Set (Section 3.8). In Section 5 of that document, these skill sets are put into the context of each type of UDS, from urine flow studies to ambulatory UDS.

4.5.1 Uroflowmetry and US measurement of PVR: UKCS 2018 Section 5.1

- Technical skills, as listed above, 4.3.3
- Indications and urodynamic questions
- Assessing the patient
- Quality of traces and US images
- Artefacts and correction
- Trace interpretation
- Report writing

4.5.2 Filling Cystometry and Pressure-flow studies (PFS) of voiding: UKCS 2018 Section 5.2

- Technical Skills, as listed above, 4.3.3
- Indications and urodynamic questions
- Assessing and examining the patient
- Preparing the patient
- Performing the test, including modifications and positioning
- Quality of traces using the Trace Quality Checklist below.
- Artefacts and correction
- Trace interpretation
- Report writing

4.6 Specialised Technical and Clinical Competencies

The sections below list the specialised competencies for candidates intending to perform one or more of these investigations. Those candidates not intending to perform one or more of these investigations will be expected to understand their principles and indications.

4.6.1 Urethral Function Studies: UKCS 2018 Section 5.3

- Technical skills, as listed above, 4.3.3
- Indications and urodynamic questions
- Assessing and examining the patient
- Preparing the patient
- Performing the test, including modifications and positioning
- Quality of traces
- Artefacts and correction
- Trace interpretation
- Report writing

4.6.2 Video / Neurological UDS: UKCS 2018 Section 5.4

- Technical skills, as listed above, 4.3.3
- Indications and urodynamic questions, to include special recommendations for neurological patients, see UKCS 2018 section 5.4.8
- Assessing and examining the patient
- Imaging and Radiological considerations
- Preparing the patient
- Performing the test, including modifications and positioning
- Quality of traces
- Artefacts and correction
- Trace interpretation
- Report writing

4.6.3 Ambulatory UDS: UKCS 2018 Section 5.5

- Technical skills, as listed above, 4.3.3
- Indications and urodynamic questions
- Assessing and examining the patient
- Preparing the patient
- Performing the test, including modifications and positioning
- Quality of traces
- Artefacts and correction
- Trace interpretation
- Report writing

4.7 Stages 3 and 4: Evidence Review and Course Attendance

4.7.1 Documentation

The Urodynamic Training Record must include the following details and documents which required for certification:

- Dates of Stages 1-5 including dates that competencies were signed off by the certified CUT
- Review of Logbook that details a suggested minimum of 50 UDS (observing 10 and performing 40). The details of cases should include gender, urodynamic question(s), urodynamic tests performed, and filling and voiding diagnoses. Patient anonymity must be ensured. The applicant's CUT will have signed the logbook assuring the quality of the logbook before submission
- Documented review by the CUT of 10 submitted Urodynamic Cases conducted by and commented on by the candidate, each with a short history and clinical assessment, and a UD trace with annotations and quality assessment (as Table 1 below), and identification of artefacts explaining how they were or should have been corrected
- Review of evidence detailing involvement in a completed audit project is suggested, during period of certification (see UKCS-MS-UDS (6) Section 3.11 for suggested audits)

4.7.2 Attendance at Advanced Urodynamics Course

Attendance at an Advanced Urodynamic course is mandatory before certification can be awarded. It is recommended that a year of clinical urodynamic practice be completed before attending the course. UKCS will develop an approval process for urodynamic courses, which will usually contain an optional end of course test. This test will provide useful assurance of knowledge gained, and a measure of course successful delivery. It is not anticipated that it will be broad and detailed enough to grant certification, and it will be determined locally by the course, so it will be necessary for candidates to sit and pass the UKCS Final Online examination before certification (Stage 5). Course evaluation and marks will be shared with UKCS for inclusion in candidate assessment.

Once the above have been completed and accepted by the UKCS Certification Board, the end of training examination can be sat.

Trace quality checklist (Table 1)

An essential component of all UDS is the quality assurance of UD traces, as well as trace interpretation. This applies to all UD methods and should be the basis for UD trace audits. Below is the check list that should be used to assess trace quality (19). The check list in the form of a spreadsheet which calculates the quality score for a trace, and can be downloaded separately.

If the pre-qualifying question 0 is not passed, then the trace cannot be read

Table 1: Trace Quality Checklist (19), used with permission

0		**Are all pressure and flow axes present and is each labelled and with timescale, and are the filled and voided volumes data presented in some form ?**
		Question
1	Pre-filling	Were all of the pressure axes displayed and scaled with the same height per cmH_2O, with the zero pressure value visible?
2		Was the urine flow vertical axis displayed and scaled as recommended (i.e. 0-25 up to 0-50 ml/sec), with the zero flow value visible?
3		Were the p_{ves} and the p_{abd} marked on the trace as being zeroed to atmosphere?
4		Was a good quality* cough test carried out at the very start of the test?
5		Were the initial resting p_{ves} and p_{abd} pressures in the physiological range**?
6		Was initial resting p_{det} in the physiological range**?
7	Filling	Were cough tests or Valsalvas visible on the printout during filling?
8		Was each set of cough peaks or Valsalvas good quality* throughout (or after correction)?
9		Were small 'live' pressure fluctuations (e.g. patient breathing) visible throughout the test (or after any correction) equally on p_{abd} and p_{ves}, but not visible on p_{det}?
10		If there was tube leakage (steady pressure descent) was it corrected?
11		Was the patient position recorded on the trace at any point?
12		If patient position change was evident on the trace, was the transducer level adjusted?
13		If detrusor overactivity was present, was it clearly marked at any point?
14		If poor compliance was seen (p_{ves} rising continuously), were appropriate actions taken (e.g. pump stopped, filling speed reduced)?
15		Were the patient reported sensations of filling indicated at any point?
16		If the flow trace shows urine leakage was present, was it clearly marked as such?
17	Voiding	Was a good quality* cough test done at the end of filling, before voiding?
18		Do all traces remain in view during very high or low pressures?
19		Was either 'permission to void' or 'void' indicated?
20		Were the markers for start and end of void correctly placed?
21		Was a good quality* cough test done after the final void?
22		Was the Q_{max} marker placed on the flow trace?
23		Was the Q_{max} marker placed away from artefacts?

* Note:	Good quality cough is one where the smaller spike is greater than 70% of the larger spike
** Note:	Physiological range for initial resting pressures p_{det}: -5 to +5 cmH_2O p_{ves} and p_{abd}: 5–20 cmH_2O if supine, 15–40 cmH_2O if seated, 30–50 cmH_2O if standing

4.8 Stage 5: End of training examination

4.8.1 Sitting the end of training examination

This should be sat within 6 months of successful submission of certification documents (as per 4.7.1). It is an on-line final basic knowledge examination, with clinical competencies and trace assessment. It is important that is NOT sat before the CUT has signed that competencies have been achieved.

4.8.2 Re-sitting the end of training examination

Should a person fail the end of training examination, they will be able to re-sit the examination within three-months, thus allowing for a further study/experience.

Prior to a resit, it is suggested that the person should seek a minimum two day period of observation in another UDU with a UKCS certified mentor.

4.9 UKCS Certification Requirements

UKCS Certification will be awarded once the candidate has completed all stages below:

- Stage 1: Passed the Basic Knowledge examination
- Stage 2: Completed and passed the Competency Based Assessments
- Stage 3: Completed the Urodynamic Training Record including log book, audit and UD cases
- Stage 4: Attended a UKCS approved Advanced Urodynamics course
- Stage 5: Passed the Final online examination

4.10 Candidates for Certification

There are four different groups of HCPs who will require certification and who will need to complete three or more of the Stages described above under 4.9

The following discussion of the four groups could be used to guide implementation of certification and re-certification by UKCS. The principle is that all HCPs performing or interpreting urodynamics, regardless of the length of their experience, will be formally assessed in order to assure patients of practitioner competence.

Group 1

- The process described above will apply to all those HCPs who are starting out on their UD career, and those who have started performing UDS but have had no formal assessment of competencies.
- *These individuals will need to complete Stages 1 to 5 for certification*

Group 2

- In the early phase of a new certification process, there are those who are in the process of having their competencies assessed in a structured manner and are therefore not yet ready for independent practice. These individuals will be fulfilling the requirements and be in the process of completing one of the current processes available to urologists, gynaecologists and clinical scientists as part of their training; the RCS (ISCP levels I-IV 2021), the RCOG/BSUG Special Skills Module 2002, and for Clinical scientists (MSc Clinical Science (Gastrointestinal Physiology and Urodynamic Sciences) awarded by Newcastle University. https://nshcs.hee.nhs.uk/programmes/stp/. These processes allow candidates to complete and achieve Stage 2.
- *In addition to their training programme, these individuals will need to complete those parts of Stages 1 to 5, not covered in their programme for certification*

Group 3

- In the early phase of a new certification process, there will be those who have previous UD experience and have passed the assessment of all their competencies in a structured manner under processes previous listed above under Group 2. These individuals will have fulfilled the requirements by completing the current process available to urologists, gynaecologists and clinical scientists as part of their training. These processes will have ensured candidates have completed Stage 2.
- *These individuals will need to complete those parts of Stages 1 to 5, not covered in their programme for certification*

Group 4

- There are many HCPs working in UDS who are working independently but have not had their competencies assessed in a structured manner and may even have been "self-taught". Some of these HCPs will have attended a Certificate in Urodynamics Course and have passed the examination at the end of the course. Some of these HCPs will have been performing UDS for many years. However, we know that long standing experience cannot be a guarantee of good practice. Previously, some have been exempted of assessment by a "grandfather clause". However, this will not be available in the UKCS Certification and Re-certification process. The most senior figures in UD practice will have to be assessed in order to obtain certification. This includes the authors of the UKCS-MS-UDS 2018 and this current UKCS document.
- *These individuals will need to pass the online examinations in Stages 1 and 5, do Stage 2 and show evidence of having supervised audits*

5. Urodynamic Re-Certification

UKCS Urodynamic Certification is valid for 5 years from date of issue. Re-Certification is only required for CUTs who deliver supervision and training to uncertified HCPs, and for those certified HCPs who deliver UDS but who do not supervise or train: both groups will be required to re-certify five years after first achieving certification and every five years thereafter. Directors (Clinical Leads) of UDUs who do not train or supervise do not have to be re-certified, but may choose to do so if they have been certified.

- Re-certification will indicate that the HCP has maintained their competence to continue to perform and interpret UDS and is able to supervise uncertified individuals learning to do UDS. Recertification will require that the individual has performed. regular documented and timetabled UD sessions (half days) every year. (A minimum of 20 sessions per year is suggested, although this number is not mandated)

Re-certification will use the same gateway as certification, with one modification: the logbook should demonstrate the breadth of the service provided by the UDU and be a simple list of cases rather than the detailed account required for certification and include a suggested minimum of 20 cases completed in the previous 6 months.

For re-certification it will be necessary for:

- Competencies to be re-assessed,
- Submission of five urodynamic traces (previously unseen and sent by UKCS to the candidate), to be annotated and judged by the candidate against the quality control checklist
- Evidence of participation in urodynamic unit audit to be supplied

Once these three requirements have been met, the HCP needs to pass the final examination that includes basic knowledge, competencies, and trace assessment. This will be taken online.

6. Implementation

The **UKCS Urodynamics Certification Board** has oversight and primary responsibilities to implement the Certification and Re-certification certification scheme and manage the ongoing process.

The UKCS will maintain databases to facilitate progress and analysis

The UKCS intends to establish a structure to support the HCPs in the UDUs in the individual regions by advising on locally and nationally available training and mentorship when requested.

The UKCS will provide an online system to facilitate both Certification and Re-certification:

A period will be needed from the time that certification is first established, during which existing supervisors become certified. These individuals, certified in this transition phase, will be able to continue supervising, in view of their previous supervisory experience. During the transition period it will be a priority to certify:

- The CUTs of non-certified HCPs,
- Other HCPs who are established in UDS

The UKCS will be responsible for promotion of the Scheme through media tools, membership, partner societies and professional bodies and employers.

All practitioners undertaking UD in private hospitals only will need to certify as detailed above.

7. Conclusions

The UKCS strongly recommends that all urodynamic investigations are carried out by, or under the supervision of, certified individuals.

The process of certification is designed to ensure that patients attending UDUs undergo high quality investigations, the results of which are accurately interpreted, in order to guide both the patient and their clinicians in the patient's future management.

Recertification will ensure that quality standards are maintained over the longer period and ensure that patients have high quality UDS.

8 . Endorsements

The following organisations have endorsed this document *(in process)*:

- International Continence Society
- Association for Continence Advice
- British Association of Paediatric Urologists
- British Association of Urological Nurses
- British Association of Urological Surgeons (BAUS)
- BAUS Section of Female, Neurological Urology and Urodynamic
- British Society of Urogynaecologists
- Institute of Physics and Engineering in Medicine
- Royal College of Nursing, Continence Forum
- Royal College of Obstetricians and Gynaecologists
- Urogynaecology Nurse Specialist Committee

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10. Appendix: IQIPS Version 2 Standards: (last updated 2020)

The Improving Quality in Physiological Services (IQIPS) is a scheme which aims to ensure services deliver accurate, effective, safe, sustainable and efficient measurements. To do so, IQIPS requires departments to have a policy on leadership, resources (including business planning), remit of clinical practice, staff training and competence, patient experience and environment, stakeholder feedback and management of risks. Departments are then assessed to determine if these policies are implemented and monitored.

IQIPS certification assessment is formal, impartial and recognised by the Care Quality Commission and NHS Improvements as contributing to quality outcomes for patients. Although currently IQIPS certification is not mandatory, it is anticipated it may be in the future.

Table 4. IQIPS v 2, which is based on the laboratory standard ISO 15189. Standards are listed below, each of which has assessment criteria available at https://www.ukas.com/certification/standards/iqips/

Leadership and Management
LM1. The healthcare provider is or must be part of a legal entity
LM2. The healthcare provider must define, document and communicate governance arrangements to include leadership, roles, responsibilities and accountabilities
LM3. The healthcare provider must operate within its quality policy and monitor performance against measurable quality objectives
LM4. The healthcare provider must establish, implement, and maintain a quality management system, QMS
LM5. The healthcare provider must ensure that documents and records (to include clinical records) are controlled
LM6. The healthcare provider must establish and review agreements for outsourcing /subcontracting clinical services
LM7. The healthcare provider must provide competent advisory services
LM8. The healthcare provider must seek and eliminate the cause(s) of potential future non-conformities by taking preventative actions
LM9. The healthcare provider must take preventative actions to identify and eliminate the cause(s) of potential non-conforming activities
LM10. The healthcare provider must evaluate and audit the effectiveness of their QMS including clinical activities
LM11. The healthcare provider must manage internal and external major incidents
Clinical
CL1. The healthcare provider must define and deliver its services from referral to discharge or further management
CL2. The healthcare provider must manage referrals and prepare patients/clients for their clinical activity
CL3. The healthcare provider must assure the technical quality of clinical activities
CL4. The healthcare provider must ensure the clinical and technical quality of records, interpretations and reports
CL5. The healthcare provider must manage the release of reports
CL6. The healthcare provider must manage clinical information systems
Patient/Client Experience
PE1. The healthcare provider must ensure that care is patient/client focused
PE2. The healthcare provider must ensure that information is available for users and stakeholders
PE3. The healthcare provider must ensure that consent is obtained
PE4. The healthcare provider must manage feedback and complaints
Safety and Risk Management
SR1. The healthcare provider must manage all service risks
Facilities and Resource
FR1. The healthcare provider must manage facilities and environment to support service delivery
FR2 The healthcare provider must have systems in place for the selection of external services and suppliers for equipment, reagents, drugs (includes contrast media), radioactive medicinal products and consumables
FR3. The healthcare provider must receive, store and manage equipment, reagents, drugs (includes contrast media), radioactive medicinal products and consumables
FR4. The healthcare provider must manage procurement, installation and replacement of all equipment
FR5. The healthcare provider must calibrate and maintain equipment
FR6. The healthcare provider must recruit, select and train staff to assure competence