

Programme Aim and Title	Postgraduate Diploma Musculoskeletal Ultrasound (PGDip MSK US)
Intermediate Awards Available	Postgraduate Certificate Musculoskeletal Ultrasound (Diagnostics) Postgraduate Certificate Musculoskeletal Ultrasound (Injection Therapy)
Teaching Institution(s)	Homerton University Hospital in collaboration with University of East London
Alternative Teaching Institutions (for local arrangements see final section of this specification)	N/A
UEL Academic School	Health Sport and Bioscience
UCAS Code	N/A
Professional Body	The programme provides 120 CPD credits in accordance with the CPD Scheme of the Royal College of Radiologists (RCR).
Relevant QAA Benchmark Statements	The nature and characteristics of the programme of post graduate study will follow subject benchmark statements aligned to Medicine (www.qaa.ac.uk).
Additional Versions of this Programme	N/A
Date Specification Last Updated	July 2021

Programme Aims and Learning Outcomes

This programme is designed to give you the opportunity to

This programme has been developed at the Homerton University's Sport and Musculoskeletal Medicine Department in collaboration with the University of East London's (UEL) Professional Health Sciences subject areas within the School of Health, Sports and Bioscience. The programme is aimed at the working healthcare professionals including, Medical Practitioners, Physiotherapists, Podiatrists, Osteopaths, and Sonographers who wish to extend their diagnostic and interventional skills in the examination and management of musculoskeletal pathologies.

The Postgraduate Diploma (PGDip MSK US) may be considered as two independent Postgraduate Certificates. The first is a Postgraduate Certificate in Musculoskeletal Ultrasonography Diagnostics (PGCert MSK US Diagnostics) which is designed to provide the student with a scientific evidence based approach to understand the physics and instrumentation of ultrasound. This underpins the practical training in the use of complex diagnostic ultrasound equipment for competent use in the student's area of practice. The emphasis is for accurate and detailed anatomy education to gain skills in the safe and correct attainment of ultrasound images for examination of musculoskeletal pathologies.

The second is a Postgraduate Certificate in Ultrasound Guided Musculoskeletal Injection Therapy (PGCert MSK US Injection Therapy). This is aimed at the postgraduate medical and allied health professional who already has a basic knowledge of musculoskeletal ultrasound and who is familiar with non-guided injection techniques. The modules aim to support and formally recognise the professional development of those clinicians working in the field of Musculoskeletal Medicine developing both knowledge and practical clinical skills in the application of ultrasound guided musculoskeletal injections.

Each programme may be completed independently of the PGDip MSK US and as a part-time (PT) or full time (FT) mode of study. Two core 30 credit modules make up each PGCert. Module 1 of each PGCert will be delivered in attendance as block release. Module 2 of each PGCert will be a work-based learning module, predominantly distance learning.

All applicants to either PGCert or the PGDip will be qualified clinicians with autonomy and independence in US application and injection therapy without the formal competencies provided by the programmes. Pre-requisites are therefore not professionally appropriate. It is desirable that the existing PGCert MSK US in diagnostics should be completed prior to the proposed PGCert MSK US in Injection Therapy, although this will not be a prerequisite. It is desirable that module 1 of each PGCert should be attained prior to attending module 2, although this will not be a prerequisite.

Where applicants have previously successfully achieved a comparable academic PGCert MSK US, consideration will be made between the programme lead, link tutor and APO to APEL (accreditation of prior education or learning) credits for admission to the PGDip MSK US.

The aims of the programme are to:

- Cultivate a safe and competent Practitioner in the use of diagnostic ultrasound within the speciality of musculoskeletal medicine.
- Develop an understanding of anatomical knowledge as it pertains to musculoskeletal ultrasound imaging.
- Introduce the use of clinical ultrasonography as a resource for enhancing clinical intervention and diagnosis with in your own practice.
- Encourage a focused knowledge of anatomy for specific interpretation and reporting of the normal and pathological state.
- Develop an understanding of the principals involved in ultrasound guided injection techniques.
- Develop appropriate practical motor skills to be able to deliver accurate guided musculoskeletal injections.
- Provide the student with a current, scientific evidence based approach to understanding the physics and instrumentation of ultrasound in the context of musculoskeletal injections.
- Encourage an enhanced knowledge of upper and lower limb human adult anatomy for specific interventional techniques.
- Introduce the student in the use of clinical ultrasound as a resource for enhancing clinical intervention and diagnosis in musculoskeletal pathology.

What you will learn

Knowledge

1. To critically reflect on the current literature in the field of study for physics and instrumentation for the interpretation of clinical musculoskeletal ultrasound.
2. To demonstrate an advanced knowledge and understanding of upper and lower extremity anatomy for detailed interpretation ultrasound imaging.
3. To critically reflect on current literature and principles of the use of ultrasound in guided musculoskeletal interventional techniques in relation to musculoskeletal pathology in the upper and lower limb.

4. To demonstrate a detailed anatomical knowledge relevant to commonly applied upper and lower limb injections.
5. To demonstrate a comprehensive knowledge of the pharmacological medicines used in interventional musculoskeletal medicine.

Thinking skills

6. To create hypotheses to assist in the clinical diagnosis of musculoskeletal pathology from ultrasound images of the upper and lower extremity of healthy adults.
7. To develop a critical understanding of the theoretical and professional considerations relevant to musculoskeletal ultrasound guided injections.
8. To develop clinical reasoning skills to be able to recognise when an injection is appropriate.

Subject-based practical skills

9. To generate high quality ultrasound imaging for the upper and lower extremity as a resource for enhancing clinical intervention and diagnosis of musculoskeletal pathology.
10. To generate high quality ultrasound images including needle identification and placement in both the upper and lower limbs.
11. To be able to recognise associated structures which need to be avoided when carrying out a guided injection.

Skills for life and work (general skills)

12. To reflect on the skills required for original thought and evidence to generate hypotheses for clinical problem solving.
13. To critically reflect on the use of musculoskeletal guided injections in relation to both profession and place of work.

Learning and Teaching

Knowledge is developed through

1. Guided reading supported by a comprehensive reading list and programme manuals.
2. Classroom based lectures and practical sessions.
3. Practical sessions in the Anatomy Laboratory with cadavers and prosections.

Thinking skills are developed through

1. Reflection on case based studies and work based portfolio.
2. Practical session discussions.

Subject-based practical skills are developed through

1. Classroom based practical sessions.
2. Anatomy laboratory practical sessions.
3. Clinical placement and work with mentor.

Skills for life and work (general skills) are developed through

1. Organisation and completion of clinical placement.
2. Completion of case studies.
3. Reflection of professional and medicolegal aspects of musculoskeletal interventional procedures.

Assessment

Module Code	Module Name	Component of Assessment	Structure	Percentage Weighting	Word count/Duration
PT7159	Musculoskeletal Ultra sonography: The Science, Instrumentation and Application of the upper & lower extremity.	Component 1: Physics of Ultrasound Written Paper	2 blocks of 3 & 2 days of Tutor led teaching (30 hours). Tutor led practise with live models.	20% Pass/Fail	60mins
PT7159	Musculoskeletal Ultra sonography: The Science, Instrumentation and Application of the upper & lower extremity.	Objective Structured Clinical Examination (OSCE). Examined by course Tutors and 2 nd marked by UEL staff.		80% Pass/Fail	70 min

PT7160	Musculoskeletal Ultra sonography: Competency in Ultrasonography within Clinical Practice.	Clinical Portfolio: Minimum 250 scans. Marked by Clinical Mentor. Reviewed and marked by course Tutors.	Mentored work based placement. Additional 2 days of Tutor led tutorial and practise (14 hours).	100% Pass/Fail	3-6months
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Module Code	Module Name	Component of Assessment	Percentage Weighting	Word count / Duration
Module PT7169	Musculoskeletal Ultrasonography: Guided Injection Therapy in Application to Upper and Lower extremity.	Component 1: Online medico-legal governance & Pharmacology MCQ	Pass/Fail 40%	60mins
	Musculoskeletal Ultrasonography: Guided Injection Therapy in Application to Upper and Lower extremity.	Component 2: Coursework Assignment	60%	3000 words
Module PT7170	Musculoskeletal Ultra sonography: Competency in Ultrasonography for guided injection Therapy in Clinical Practice – Work-based Placement.	Work based portfolio of 35 scans, including 4 reflective case study reviews. OSCE	Pass/Fail 80% Pass/Fail 20%	3-6months

For a successful Work based learning experience and achievement of Module 2 learning outcomes, a work based clinical mentor is required to observe and review clinical musculoskeletal images produced by the student. This is in accordance with practical training suggested by the Royal College of Radiologists who advocate regular appraisal throughout clinical training.

Students with disabilities and/or particular learning needs should discuss assessments with the Programme Leader to ensure they are able to fully engage with all assessment within the programme.

Clinical Placements

For the PGCert MSK US Diagnostics students will need to complete a work-based portfolio of 250 scans under the direct supervision of a suitable mentor submitting the finished portfolio for the

successful completion of the module. It remains the responsibility of the student to ensure that they have an appropriate mentor.

For the PGCert MSK US Injection Therapy students will need to complete a work-based portfolio of 35 ultrasound guided injections under the direct supervision of a suitable mentor submitting the finished portfolio for the successful completion of the module. It remains the responsibility of the student to ensure that they have an appropriate mentor.

There is no definitive qualification that is required for the mentor. However it would be expected that one or more of the following are met,

1. Radiologist with regular MSK US list
2. Sonographer, Physiotherapist or Sports Physician with a PGCert / Dip
3. Sonographer, Physiotherapist or Sports Physician who may not have a recognised qualification but who has regular MSK US list.

Programme Structure

All programmes are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).

Credits are assigned to one of 5 levels:

- 3 Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree programme.
- 4 Equivalent in standard to the first year of a full-time undergraduate degree programme.
- 5 Equivalent in standard to the second year of a full-time undergraduate degree programme.
- 6 Equivalent in standard to the third year of a full-time undergraduate degree programme.
- 7 Equivalent in standard to a Master's degree.

Programmes are made up of modules that are each credit weighted.

The module structure of this programme:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
7	PT7159	Musculoskeletal Ultrasonography: The Science, Instrumentation and Application of the upper & lower extremity	30	Core	N
7	PT7160	Musculoskeletal Ultrasonography: Competency in Ultrasonography within Clinical Practice	30	Core	N
7	PT7169	Musculoskeletal Ultrasonography: Guided Injection Therapy in Application to Upper and Lower extremity	30	Core	N
7	PT7170	Musculoskeletal Ultrasonography: Competency in Ultrasonography for guided injection Therapy in Clinical Practice – Work-based Placement	30	Core	N

Please note: Optional modules might not run every year, the programme team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience.

Requirements for gaining an award

In order to gain a Postgraduate Certificate in either, you will need to obtain 60 credits at Level 7.

In order to gain a Postgraduate Diploma, you will need to obtain 120 credits at Level 7.

PGCert Musculoskeletal Ultrasonography Diagnostics 60 credits

PGCert Musculoskeletal Ultrasonography injection therapy 60 credits

If both completed this will lead to the award of a PGDip in Musculoskeletal Ultrasonography 120 credits

Typical Duration

The duration of this PGDip is two calendar years if full-time

The time limit for completion of a programme is six years after first enrolment on the programme

Further Information

More information about this programme is available from:

- The programme website www.mskus.co.uk
- The UEL web site (www.uel.ac.uk)
- The Course Director Dr. Peter Resteghini p.resteghini@nhs.net
- UEL Manual of General Regulations (available on the UEL website)
- UEL Quality Manual (available on the UEL website)
- The programme handbook
- Module study guides
- UEL Manual of General Regulations (available on the UEL website)
- UEL Quality Manual (available on the UEL website)
- School web pages

All UEL programmes are subject to thorough programme approval procedures before we allow them to commence. We also constantly monitor, review and enhance our programmes by listening to student and employer views and the views of external examiners and advisors.

Additional costs:

In addition to the PGCert programme fees there is an additional £250 fee to register for the award of PGDip.

There are no additional costs associated with the programme.

Alternative Locations of Delivery

Queen Mary University of London Anatomy Laboratory