**Checklist Practical Components of the Radiopharmacy Syllabus**

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| --- | --- | --- | --- |
| **Topic** | **Period(s)** | **Institute(s)** | **Visum Supervisor(s)** |
| **1.** | **Working in a sterile environment** |   |   |   |
|   | aseptic technique |   |   |   |
|   | monitoring personal technique |   |   |   |
|   | monitoring the environment |   |   |   |
|  |  |  |  |  |
| **2.** | **Use of safe radiation practices** |   |   |   |
|   | procedures for personal dose limitation and monitoring |   |   |   |
|   | contamination monitoring |   |   |   |
|   | accidents involving radioactivity |   |   |   |
|   | local and national regulations and procedures |   |   |   |
|   | radioactive waste disposal |   |   |   |
|  |  |  |  |  |
| **3.** | **Documentation of radiopharmaceutical procedures** |   |   |   |
|   | standard operating procedures |   |   |   |
|   | product and equipment specifications |   |   |   |
|   | records of radiopharmaceutical preparation |   |   |   |
|   | records of analysis and other processes |   |   |   |
|  |  |  |  |  |
| **4.** | **Use, maintenance and calibration of equipment used in radiophamacies** |   |   |   |
|   | radioisotope calibrator (ionisation chamber, Aktivimeter):accuracy, constancy, linearity and geometry effects(refer to national laws and regulations) |   |   |   |
|   | contamination monitors: efficiency, minimum detectable activity |   |   |   |
|   | (gamma) scintillation counters:efficiency, resolution, minimum detectable activity, counting statistics |   |   |   |
|   | liquid scintillation counter: efficiency and counting statistics |   |   |   |
|   | laminar flow hoods / radioisotope work-stations |   |   |   |
|   | centrifuges |   |   |   |
|   | balances |   |   |   |
|  |  |  |  |  |
| **5.** | **Procurement of Radiopharmaceuticals** |   |   |   |
|   | Types and limits of radionuclide material that can be ordered |   |   |   |
|   | Ordering radiopharmaceuticalsconsideration of purchase orders, suppliersordering schedules and times, precalibration timesrecord keeping, including familiarity with computer procedures |   |   |   |
|   | Receipt of radiopharmaceuticalsdelivery procedures, trace of delayed shipments, surveyswipe tests, radioassay, packaging, disposal |   |   |   |
|   | storage requirements, record keeping logs |   |   |   |
|  |  |  |  |  |
| **6.** | **Radiopharmaceutical preparation** |   |   |   |
|   | Elution of a 99mMo-99mTc generator; quality control of eluates |   |   |   |
|   | Preparation of 99mTc radiopharmaceuticals using 'kits' |   |   |   |
|   | Preparation of 'in-house' radiopharmaceuticals (non-kit; optional) |   |   |   |
|   | Labelling of red and white blood cells |   |   |   |
|  |  |  |  |  |
|  |  |  |  |  |
| **7.** | **Quality control of radiopharmaceuticals** |   |   |   |
|   | Radionuclidic purity using absorption methodsgamma-ray spectroscopy, T1/2 determination |   |   |   |
|   | Radiochemical purity using thin-layer chromatographysolid-phase extraction and HPLC methods |   |   |   |
|   | Chemical purity: pH, aluminium-ion content |   |   |   |
|   | Particle size of particulate radiopharmaceuticalsfiltration, light microscopy |   |   |   |
|   | Pharmaceutical acceptabilityvisual inspection, sterility, freedom from endotoxin (Limulus test) |   |   |   |
|  |  |  |  |  |
| **8.** | **Supply of radiopharmaceuticals** |   |   |   |
|   | Dispensing, labelling, allocation of control numbersexpiry dates, packaging, transport |   |   |   |
|  |  |  |  |  |
| **9.** | **Participation in research and development projects** |   |   |   |
|   | Presentation of work at an open scientific meeting |   |   |   |
|  |  |  |  |  |
| **10.** | **General experience** |   |   |   |
|   | two weeks in a centre preparing PET radiopharmaceuticalsor single-photon radiopharmaceuticals (non-kit)if this is not included in their three year experience |   |   |   |
|  |  |  |  |  |
| **11.** | **Clinical experience** |   |   |   |
|   | two weeks in a clinical department of nuclear medicineincluding observation of patient handling, operation of imaging equipment,interpretation of images and quantitative data |   |   |   |
|  |  |  |  |  |
| Supervisors must sign on the checklist or, if they write an accompanying letter, state which topics listed in the checklist have been covered in their institute |  |