Oncology Services Inspection Checklist- Final

Name of the Facility: _____

Date of Inspection:_____/_____/_____

Ref.	Description	Yes	No	N/A	Remarks
1	**Introduction**				
1.5.6.2.	To obtain the DHA license, the applicant must meet the following:				
1.5.6.2.3.	Install and operate equipment required for provision of the proposed services in accordance with manufacturer specifications.				
1.5.6.2.4.	Develop policy and procedure documents for the following:				
1.5.6.2.4.1.	Infection control measures and hazardous waste management				
1.5.6.2.4.2.	Medication management				
1.5.6.2.4.3.	Patient health record				
1.5.6.2.4.4.	Medical emergency action plan				
1.5.6.2.4.5.	Patient discharge/ transfer plan				
1.5.6.2.4.6.	Radiation safety policies				
1.5.6.2.4.7.	Patient transfer and emergency action plan				
1.5.6.2.4.8.	Staff documentation and job description				
1.5.6.2.4.9.	Incident Reporting				
1.5.6.2.4.10.	Disaster Management/ Emergency preparedness plan.				
1.5.6.2.4.11.	Informed Consent				
1.5.6.2.4.12.	Safety measures against biohazards and radioactive				

	medical waste				
1.5.6.2.4.13.	Full disclosure of information to patients about Confidentiality and release of information				
1.5.6.2.4.14.	Safe administration of systemic therapy				
1.5.6.2.4.15.	Timely referral to palliative and hospice care				
1.5.6.2.5.	Maintain Charter of Patients' rights and responsibilities noticeably posted on the facility premises at least in two languages (Arabic and English).				
1.5.6.2.6.	Provide evidence of FANR license to use the Ionizing Radiology equipment in the facility.				
1.5.6.2.7.	Maintain adequate lighting and utilities, including temperature controls, water taps, sinks and drains, electrical outlets and telecommunication systems.				
1.5.6.2.8.	Keep floors, work surfaces, and other areas clean and neat.				
1.5.6.2.9.	Clearly, display signage and direction for different services provided in at least in two languages (Arabic and English).				
1.5.6.2.10.	Clearly displayed hazardous signs aimed to restrict access for the safety of patients, visitors and staff.				
1.5.6.2.11.	Designate secured areas for the collection of medical waste, radioactive waste, general storage facilities for supplies and equipment and storing area for hazardous materials.				
1.5.6.2.12.	Ensure accessibility for handicapped and disabled individuals.				
1.5.6.2.13.	The facility safety plan, design and equipment shall comply with the fire safety requirements by the Dubai Civil Defence Department.				

2	General Design Considerations				
2.1.	The facility shall be located in an area, which is accessible and convenient to population using either public transportation or vehicles.				
2.3.	Provide parking area in the facility premises to satisfy the needs of patients, which shall be acceptable to the local authorities having jurisdiction e.g. Road and Traffic Authority (RTA) and DM.				
2.4.	In case the oncology services are part of a hospital, preferably a discreet entry shall be provided for patients.				
2.5.	The facility shall be accessible by ambulance.				
2.6.	Each facility design shall ensure appropriate levels of patient acoustical and visual privacy and dignity				
2.7.	Natural light shall be provided as much as possible in public spaces, waiting areas and those treatment areas that patients and staff occupy for long periods.				
2.8.	The facility shall be air-conditioned and with special emphasis on shielding the HVAC ducts in radioactive areas from the rest of the facility, and ensuring that negative air pressure is provided in isolation rooms.				
2.9.	Public corridors shall have a minimum width of 1.5 meters.				
2.10.	Items such as provisions for drinking water, vending machines, etc., shall not restrict corridor traffic or reduce the corridor width below the required minimum.				
2.11.	The minimum door opening width for patient use shall be 0.85 meters. In areas where the facility serves patients confined to wheelchairs, the minimum width of door openings shall be one (1) meter.				

2.12.	Door swings shall be oriented to provide patient privacy.				
2.13.	The minimum distance from the floor to the structural ceiling height shall be three (3) meters.				
2.14.	Colour contrast between walls, floors and doors shall be considered as it may reduce falling risk of blurred vision patients.				
2.15.	Selected flooring surfaces shall be easy to maintain, easy to disinfect, readily cleanable, impervious and appropriately wear-resistant for the location.				
2.16.	Slip-resistant flooring products shall be considered for flooring surfaces in wet areas (e.g. ramps, shower and bath areas) and areas that include water for patient services as well as stairways.				
2.17.	Highly polished flooring, walling or finishes that create glare shall be avoided.				
2.18.	Carpet or wooden flooring shall not be used in examination and treatment rooms. But can be used in waiting areas and corridors. Carpet if used shall be glued or stretched tight and free of loose edges or wrinkles.				
2.19.	Wall finishes shall be easy to disinfect, washable, moisture-resistant and smooth.				
2.20.	Wall finish treatments shall not create ledges or crevices that can harbor dust and dirt.				
2.21.	Joints for floor openings for pipes and ducts shall be tightly sealed.				
2.22.	Equipment, furniture, fittings and the facility itself shall be designed and constructed to ensure that users are not exposed to avoidable risks or injury.				

2.23.	Ensure emergency exits in the facility with proper signs directing towards them.				
2.24.	Nurse call and emergency call facilities shall be provided in all patient areas (e.g. bed/chair spaces, toilets and bathrooms) and clinical areas in order for patients and staff to request for urgent assistance.				
2.25.	Maintain an Uninterrupted Power Supply (UPS) for backup, the power supply of, which shall be able to support all functions of the equipment in the oncology center during treatment.				
2.26.	The facility should provide the below effective technology/ communications services for efficient operation of the oncology service:				
2.26.1.	Bar coding for supplies, x-rays and records				
2.26.2.	Access to picture archiving communications systems (PACS)				
2.26.3.	Paging systems				
2.26.4.	Electronic medical records and medical record storage systems				
2.26.5.	Point of clinical care				
2.26.6.	Patient Administration System (PAS)				
2.26.7.	Building management system (BMS)				
2.26.8.	Videoconferencing/ teleconferencing				
2.26.9.	Wireless technology considerations duress alarm systems fixed and mobile units				
2.26.10.	Communications room and server requirements.				
3	**Oncology Service Requirement:**				
3.1.	Reception and Waiting Areas				
3.2.	Consultation and Examination Rooms				

3.3.	Diagnostic Imaging Services				
3.4.	Radiotherapy Services				
3.6.	Mould room.				
3.7.	Treatment planning room.				
3.8.	Chemotherapy Services				
3.9.	Surgical care				
3.10.	Intensive Care Unit (ICU)				
3.11.	Inpatient rooms				
3.12.	Outpatient holding area				
3.13.	Clinical Laboratory and Blood services				
3.14.	Support areas for Oncology care				
3.15.	Staff areas including staff station, staff change areas, etc.				
3.16.	Meeting room where the multidisciplinary team gets together to discuss cases.				
Note:	In case, the applicant provides a single oncology service, then only the relevant requirements from the above list should be considered.				
4	**Reception and Waiting Areas**				
4.1.	A reception/ information counter shall be located at the entrance to provide visual control of patient/ visitors.				
4.2.	The information counter shall provide access to patient files and records.				
4.3.	The waiting area shall accommodate enough seating and provide wheelchairs accessibility to fulfil the functional requirement of the services.				
4.4.	Drinking water may be provided in a waiting area.				
4.5.	Alcohol-based hand rub/ sanitizer dispensers shall be				

	available.				
4.6.	In case the oncology services is part of a hospital, male and female waiting areas should be provided or shared with other adjacent departments.				
4.7.	In case pediatric oncology services are provided in the facility, a separate controlled area for pediatric patients should be designated.				
4.8.	Provide a sufficient number of toilets for patients, their families, and staff with a hand-washing station.				
4.9.	Provide at least one (1) dedicated toilet for disabled individuals in the oncology service area.				
4.10.	Public toilet(s) shall be conveniently accessible from the waiting area without passing through patient care or staff working areas.				
5	**Consultation and Examination Rooms**				
5.1.	Consultation and examination room(s) shall have a minimum floor area of twelve (12) square meters.				
5.2.	Room arrangement shall permit a minimum clearance of 0.8 meters on both sides and at one end of the examination table, bed, or chair.				
5.3.	The exam table should be designed to accommodate the diagnostic position of all oncology ailments.				
5.4.	A counter or shelf space for writing, documentation or placing a computer/ laptop shall be ailments.				
5.5.	A hand-washing station with a hands-free operating tap and disposable liquid or foam soap dispensers shall be provided in all examination room(s).				
5.6.	Sinks shall be designed with deep basins, made of porcelain, stainless steel, or solid surface materials.				

5.7.	Hand sanitation dispensers shall be provided in addition to hand-washing stations.				
5.8.	Provisions for hand drying shall be available at all hand-washing stations.				
5.9.	The area below the hand washing station shall be free of clutter at all times.				
6	**Diagnostic Imaging services**				
6.1.1.	Conventional Radiography (X ray unit)				
6.1.2.	Ultrasound				
6.1.3.	MRI				
6.1.4.	Digital Mammography				
6.1.5.	Sonography				
6.1.6.	CT				
6.1.7.	PET CT imaging				
6.1.8.	SPECT/CT				
6.2.	PET CT imaging				
6.2.1.	The major considerations are space, power, floor loading concerns and radiation shielding.				
6.2.2.	**The PET CT imaging area shall have the following areas:**				
6.2.2.1.	Patient preparation/ Injection room				
6.2.2.2.	Uptake room/holding area				
6.2.2.3.	Hot laboratory designed for 511KeV energy level.				
6.2.2.4.	Imaging room or PET CT bays with control areas				
6.2.2.5.	Waiting area				
6.2.2.6.	Dedicated toilet for patients				
6.2.2.7.	Administrative areas				
6.2.2.8.	Decay room/ waste room				

6.2.3.	Injection/Holding room(s), hot laboratory, and PET/ CT bays are areas that shall need shielding for 511KeV emission.				
6.2.4.	Special consideration shall be given to indirect lighting, curtains and noise control.				
6.2.5.	There shall be a dedicated adjacent hot toilet for patients to use after uptake period.				
6.2.6.	Additional shielding is recommended for the nursing stations and the PET/CT control room.				
6.2.7.	Uncontrolled areas with high occupancy should be located as far from the PET uptake and imaging rooms as possible.				
6.2.9.	Portable lead shields can be used effectively to shield patients in uptake rooms.				
6.2.10.	Provide at least one (1) designated area for preparing patients for the PET CT scan The PET CT facility shall have an uptake room for holding patients before the scan.				
7	**Radiation Oncology Services**				
7.1.	The radiation therapy services shall consists of equipment for treatment of patients using radioactive rays. Careful attention must be focused on the flow of patients in the treatment facility.				
7.2.	Patient privacy and dignity is a prime consideration in the design of radiation therapy unit.				
7.3.	The layout of the facility shall be planned taking into consideration equipment requirements, water and electrical utilities needed, room shielding requirements, (including the need of dosimetry ports with indirect wall penetration) and climate control.				

7.6.	**The radiation therapy unit shall:**				
7.6.1.	Be located on the ground floor or lower floors of the oncology center to accommodate the weight of the equipment and ease of installation and replacement.				
7.6.2.	Ensure properly designed rigid support structures located above the finished ceiling for ceiling mounted equipment.				
7.6.3.	Provide equipment and infrastructure for treatment of patients using radioactive rays.				
7.7.	Consideration shall be given to co-location of radiation therapy with other diagnostic facilities for patient convenience.				
7.8.	The radiation unit may have an inpatient facility for frail patients, patients travelling long distances and the occasional patient who has severe reactions to any of the treatments administered in the facility (a bed for every 10 patients).				
7.9.	The radiotherapy unit should include the following functional areas, but not limited to :				
7.9.1.	CT Simulation room with an adjacent control area and changing room				
7.9.2.	Treatment planning room for physicist/ dosimetrists				
7.9.3.	Film processing and storage area.				
7.9.4.	Physics laboratory/ Dosimetry equipment area (if thermoluminescent dosimetry (TLD) and film dosimetry are available, an area shall be designed for these activities)				
7.9.6.	Radiotherapy Room/ Bunkers to house the equipment to deliver treatment with an adjacent computer control				

	area and changing rooms				
7.9.7.	Holding area/ Recovery area				
7.9.8.	Hypothermia room (may be combined with an examination room)				
7.9.9.	Mould room (optional)				
7.9.10.	Exam Room				
7.10.	If intra-operative therapy is proposed, the radiation oncology unit shall be only hospital based and located close to the operating unit or with a direct link.				
7.11.	**Areas requiring specific protection measures (controlled areas) include:**				
7.11.1.	Irradiation rooms for external beam				
7.11.2.	Therapy and remote afterloading brachytherapy				
7.11.3.	Brachytherapy rooms				
7.11.4.	Simulator room				
7.11.5.	Radioactive source storage and handling areas				
7.12.	These areas shall maintain define controlled areas by physical boundaries such as walls or other physical barriers marked or identified with 'radiation area' signs.				
7.13.	The area of the control panel shall be considered as a controlled area, to prevent accidental exposure of patients by restriction of access to non-related persons, and distraction to the operator of a radiotherapy machine.				
7.14.	Supervised areas may involve areas surrounding brachytherapy patients' rooms or around radioactive source storage and handling areas.				
7.16.	**EXTERNAL BEAM THERAPY**				

7.16.1.	May contain an examination rooms, a simulator room, a treatment planning room, a mould room (optional), a treatment room (bunker) and waiting areas.				
7.16.2.	External beam therapy equipment				
7.16.2.1.	A photon-energy teletherapy unit				
7.16.2.2.	An orthovoltage unit				
7.16.2.3.	Beam measurement and quality assurance and radiation protection physics equipment				
7.16.2.4.	A simulator, preferably a computed tomography (CT) simulator				
7.16.2.5.	A computerized treatment planning system (TPS)				
7.16.2.6.	Picture archiving and storage system				
7.16.2.7.	Patient immobilization devices and mould room equipment				
7.16.3.	The examination rooms shall				
7.16.3.1.	Be in close proximity to the treatment room.				
7.16.3.2.	Include standard and gynecological examination tables, a head and neck examination chair, appropriate examination instrument and medical supplies.				
7.16.4.	The simulator room shall:				
7.16.4.1.	Be large enough to accommodate the simulator, allowing the full range of motion of the treatment table.				
7.16.4.2.	Have provision for dimming of room lights.				
7.16.4.3.	Have adequate space for cabinetry to store treatment devices and daily used equipment that measure quality assurance.				
7.16.4.4.	Have cabinet space to store supplies for their fabrication, if the immobilization devices are to be fabricated in the simulator room.				

7.16.4.5.	Have hand-washing provision.				
7.16.4.6.	Have a viewing window for the control room.				
7.16.4.7.	Have light boxes.				
7.16.5.	The treatment planning room shall:				
7.16.5.1.	Be located in close proximity to the simulator room, although the two areas do not have to be adjacent.				
7.16.5.2.	Be large enough to house the treatment-planning computer with its video monitor, a printer and plotter, a digitizer tablet and other required computer equipment.				
7.16.6.	The Mould Room shall:				
7.16.6.1.	Have exhaust hood, hand basin, and block room with storage (if applicable).				
7.16.6.2.	Be located away from busy areas of the facility.				
7.16.6.3.	Space for tools, a block cutter and counter-top workspace for pouring and mounting the blocks is required.				
7.16.6.4.	Storage space for supplies of Styrofoam, trays and shielding material for custom blocking.				
7.16.6.5.	Adequate ventilation if shielding materials are melted in this area.				
7.16.6.6.	A sink with a refuse trap, as plaster of Paris is frequently utilized.				
7.16.7.	The treatment rooms shall be as far as possible from highly occupied areas. The treatment room shall have:				
7.16.7.2.	Large enough rooms to accommodate the treatment machine, allowing the full range of motion of the treatment table.				
7.16.7.3.	A door interlock or other suitable means to prevent unauthorized access.				

7.16.7.4.	A door with a fail-safe interlock to switch off the radiation beam (i.e. return the source to the shielded position) if the door is opened during a treatment. Restarting irradiation shall require both closing of the door and activation of a switch at the control console. This is intended as a reminder to record the irradiation time given prior to opening the door.				
7.16.7.5.	A sign on the door to indicate that the room contains radiation sources or radioactive materials.				
7.16.7.6.	Visible light at the door that shows if the source is on or off (the light will be red when the source is on and green when it is off).				
7.16.7.7.	Battery operated detector of scattered radiation inside the room that shows when the source is on.				
7.16.7.8.	Emergency buttons located inside the room to shut off the radiation, and these shall be reachable without passing through the radiation beam.				
7.16.7.9.	Audio intercommunication to communicate with patients.				
7.16.7.10.	An area radiation monitor safe against a power failure visible on entering the room for a high dose rate machines.				
7.16.7.11.	Provision for dimming of room lights.				
7.16.7.12.	Adequate space for cabinetry to store treatment devices, immobilization devices, blocks and daily used quality assurance equipment.				
7.16.7.13.	Provide secure mounting of patient positioning lasers to the wall at points appropriate for projection of lines through the iso-centre.				
7.16.7.14.	Have a specially designed electrically operated door at				

	the entrance to the room. However, an alternative to this is an appropriately designed extended corridor /maze leading into the room.				
7.16.7.15.	Ensure space for a console immediately outside the treatment area monitoring the treatment room door large enough to accommodate not only the control console for the unit but also a workspace for the Radiotherapy technologist, in addition to space for an intercom and closed circuit television system. It shall also accommodate any computer equipment associated with the treatment machine. This may include the record and verify (R&V) computer system, an information management system, and electronic imaging or treatment time, calculation systems. (A modern linac may involve up to six monitors and their associated computers).				
7.16.8.	An indirect penetration access (dosimetry) port from the control area through the concrete is required to allow the measurement of beam characteristics using an ion chamber in the field while the electrometer and physicist are in the control room, thereby avoiding excessively long extension cables.				
7.16.9.	For orthovoltage treatments, the room requirements are considerably simpler, although an external console area is still required.				
7.16.10.	It is desirable to have separate waiting areas for patients attending clinics and those awaiting treatment. The waiting area shall be adjacent to the treatment room, with space for seating patients receiving the therapy.				

7.16.11.	There shall be provision for patient holding area for patients on stretchers adjacent to the treatment area, preferably separated from ambulatory patients.				
7.16.12.	The provision of appropriate changing facilities close to the entrance of the treatment room, and shielded from the view of other patients and visitors.				
7.17.	**LOW DOSE RATE BRACHYTHERAPY**				
7.17.1.	A common hospital room without special shielding can be used as LDR brachytherapy.				
7.17.2.	The room may be large enough to accommodate afterloader carts, portable bedside shields, and positioning visitor's chair far from the patient.				
7.17.3.	Rooms adjacent to the treatment room may be low occupancy.				
7.17.4.	May have either manual or remote afterloading equipment except for some situations (e.g. permanent implants and eye implants).				
7.17.5.	Either modality will require a source storage and preparation room, operating room, treatment-planning room and patient room.				
7.17.6.	These facilities shall not be too widely separated, in order to reduce distances over which patients and sources have to be transported as the relative proximity of these facilities can significantly influence procedure flow and efficiency.				
7.17.7.	Facility design shall incorporate features to avoid transport in elevators of patients containing radioactive sources.				
7.17.8.	There shall be sterilization facilities for applicators.				

7.17.9.	**Source storage and preparation room shall:**				
7.17.9.1	Be designed in accordance to the FANR specifications and recommendations and be provided with a locked door to control access to the radioactive material.				
7.17.9.2.	Provide a sign posted on the door warning of the radiation hazard.				
7.17.9.3.	Contain shielded storage for all sources and have facilities for receiving, preparing, calibrating and returning sources.				
7.17.9.4.	Have a visible radiation monitoring area on entering the room and while preparing the sources.				
7.17.9.5.	Maintain space for a workbench.				
7.17.9.6.	Provide a cabinet for the necessary instruments, equipment, treatment aid and the required documents.				
7.17.9.7.	Provide space for source transportation trolleys.				
7.17.9.8.	Provide storage to allow decay of sources to safe levels.				
7.17.10.	The operating room shall				
7.17.10.1.	Preferably, have an X ray unit, with fluoroscopic capabilities to enable the position of the applicator or catheters to be checked, and if necessary repositioned, before the patient leaves the operating suite.				
7.17.10.2.	Availability of localization X rays (orthogonal or stereo-shifted X rays) required for dose calculation purposes. If no X ray unit is in the operating room, these functions must be available elsewhere.				
7.17.11.	**Patient Treatment Room**				
7.17.11.1.	Treatment planning for LDR brachytherapy is usually performed on a general TPS for teletherapy and brachytherapy using brachytherapyplanning software.				

7.17.12.	**Patient Room**				
7.17.12.1.	House each LDR brachytherapy patient in a separate room.				
7.17.12.2.	Ensure that shielded according to FANR must comply with the FANR laws and regulations regarding the use of ionizing radiation and radioactive materials. For further information regarding FANR regulations and				
7.17.12.3.	A sign shall be posted on the door warning of the radiation hazard.				
7.17.12.4.	A list with the maximum duration of daily visits by members of the public shall be posted on the door.				
7.17.12.5.	If several rooms are required, they shall be adjacent to each other.				
7.17.12.7.	Each patient room shall have an attached toilet for patient convenience.				
7.17.12.8.	Storage for a bedside shield and emergency source container shall also be provided.				
7.17.12.9.	The patient rooms used to house the LDR brachytherapy patients until they are ready to be discharged may not need to have shielding in their walls if mobile lead shields around the patient's bed are made available.				
7.17.13.	Additional requirements for LDR remote afterloading				
7.17.13.1.	The shielding requirements for uncontrolled areas surrounding the treatment area are unchanged.				
7.17.13.2.	Additional requirements for remote afterloading include:				
7.17.13.2.1	Additional floor space and required utilities (dedicated compressed air and power sources)				

7.17.13.2.2.	A door interlock or other suitable means to prevent unauthorized access to the patient rooms;				
7.17.13.2.3.	An area radiation monitor that is safe against a power failure in the patient rooms.				
7.17.14.	**Procedures that are unique to LDR sources are:**				
7.17.14.1.	The sources shall be inspected visually for possible damage after each use, by means of magnifying viewers and a leaded viewing window in a shielded work area.				
7.17.14.2.	There shall be a diagram at the source storage safe that shows the exact location of each source within the safe, thus reducing the time taken to locate and identify a source. Sources shall only be handled with long forceps or tongs.				
7.17.14.3.	When transporting sources, a mobile shielded container is needed and the shortest route possible shall be used.				
7.17.14.5.	Work surfaces shall be easy to clean and brightly lit to make it easy to find any sources that have been dropped.				
7.17.14.6.	If the source storage and preparation room is also the applicator loading room, there shall be a sink for cleaning the applicators. However, a sink can also lead to a loss of sources to the sewage system when a source is left in the applicator or a patient removes a source and puts it in the sink, situations that are preventable by placing a filter in its drain.				
7.18.	**HIGH DOSE RATE (HDR) BRACHYTHERAPY**				
7.18.1.	Requires an ambience identical to operating theatre; a radiographic imaging system; a treatment room; a treatment planning area.				

7.18.2.	All these areas must be in close proximity to one another for effective procedure flow and efficiency.				
7.18.3.	The operation theatre and anaesthesia shall be required for the insertion of brachytherapy applicators.				
7.18.4.	An HDR brachytherapy facility can have:				
7.18.4.1.	A treatment room for the HDR unit, together with shared use of existing operating or procedure rooms and imaging systems, such as a simulator.				
7.18.4.2.	An integrated brachytherapy suite with a dedicated imaging system, requiring no transport of the patient between the different steps.				
7.18.5.	Based on room dimensions and design. The HDR treatment room/ bunker radiation suppression should be designed and decided by the Radiation Physicist.				
7.18.6.	Each of the walls, the ceiling and the floor of an HDR room is a primary barrier and shall be of adequate thickness to protect the staff and public, outside the treatment room.				
7.18.7.	The HDR unit shall be located within a defined area of the room and a chain or electrical interlock is used to ensure that it cannot be turned on (i.e. the source driven outside its protective housing) unless the HDR unit is in that prescribed area.				
7.18.8.1.	Ensure an interlock on the door that will cause the source to be retracted into its shielded housing if the door is opened during the time the source is on.				
7.18.8.2.	Ensure an indicator at the door of the HDR treatment room as well as at the treatment console indicating the treatment is on or off.				
7.18.8.3.	Maintain a battery-operated detector of scattered				

	radiation inside the room that shows when the source is on.				
7.18.8.4.	Ensure that there are emergency procedures for safely removing the source from the patient and quickly storing it in a safe location in the event that it does not retract all the way into its source housing when expected. This requires that a wire cutter sufficient to cut the source cable and a shielded storage container be located inside the treatment room.				
7.18.8.5.	Ensure that the door to the room shall be marked to indicate the radioactive materials that are within, and there shall be an indication of how to contact the person responsible for radiation safety in the event of an emergency.				
7.18.9.1.	Treatment rooms shall be locked.				
7.18.11.	The storage facilities must be marked to indicate that they contain radioactive materials as well as a way to contact the individual responsible for radiation safety in the event of an emergency.				
7.18.12.	The storage facilities must be kept locked at all times with sufficient shielding and must be resistant to fire.				
7.18.13.	Every item in the source storage shall be labelled and be well organized in compartments with easy access when required.				
7.18.17.	Develop an emergency plan to retrieve a lost source				
7.18.20.	Procedures that are unique to HDR sources are:				
7.18.20.3.	Maintain an emergency container for emergency safety, precautions in the treatment room, as well as an emergency kit containing surgical clamps and long				

	handled forceps for manipulation of the source guide tubes and applicators.				
7.18.21.1.	The doors to the source storage rooms need to be locked and have a sign indicating that there are radioactive materials stored within.				
7.18.22.	**Equipment**				
7.18.22.4.	A plan for acquisition and commissioning of equipment shall be developed consistent with the training of staff and the pace at which new technology can be integrated into patient care.				
7.18.23.	**Quality assurance (QA) of the radiotherapy program and radiation protection of the patient**				
7.18.23.2.1.	A documented quality assurance program consists of policy statements, written management procedures, work instructions, data sets and reference documents, prescription sheets, request forms, records, etc.				
7.18.23.2.2.	**Clinical Policies**				
7.18.23.2.3.	Treatment plan and delivery				
7.18.23.2.4.	Quality control program for machine and equipment performance maintenance programs				
7.18.23.2.5.	Investigative procedures for accidental medical exposures				
7.18.24.	Patient-specific QA practices include, but are not limited to, the following:				
7.18.24.1.	Patient identity is verified by two (2) independent methods at the beginning of each encounter.				
7.18.24.2.	Patient-specific QA is done before initiation of intensity-modulated radiation therapy.				
7.18.24.3.	Independent check of dose calculation is done for every				

	new or changed treatment before treatment is started.				
7.18.25.1.	These include, but are not limited to, daily, monthly, and annual radiation treatment machine QA procedures.				
8	**Chemotherapy Unit**				
8.3.1.	Ease of public access for patients who may arrive by public transport or vehicles, with families and children or those who arrive on a wheel chair, ambulance stretcher or patient trolley.				
8.3.2.	Discreet access or exit with special consideration to privacy of patient.				
8.5.	The chemotherapy unit can have inpatient services only with an Internal Medicine Consultant / Specialist present at the facility at all times and provide a minimum of 5- 6 inpatient beds.				
8.6.	In case a chemotherapy unit is a freestanding facility it shall:				
8.6.1.	Maintain a contract with the closest hospital with inpatient services to manage emergencies or complications.				
8.6.2.	Provide an in-house ambulance service.				
8.7.	The Chemotherapy Unit shall have the following functional areas:				
8.7.1.	Reception/ Waiting area				
8.7.2.	Consultation room				
8.7.3.	Sterile preparation room/ Buffer area				
8.7.4.	Anteroom/ pharmacy				
8.7.5.	Patient treatment areas/ procedure room with treatment chairs or beds				
8.7.6.	Isolation room(s)				

8.7.7.	Clean utility/ Dirty utility				
8.7.8.	Medication preparation room with a 100% exhaust Class II B2 safety cabinet				
8.7.9.	Staff areas				
8.7.10.	Support areas				
8.7.11.	Storage areas for clinical, non-clinical and bulk items storage e.g. fluids, equipment including infusion/syringe pump storage				
8.7.12.	Waste Disposal Room				
8.8.	The chemotherapy unit shall maximize the use of natural light.				
8.9.	All treatment areas (bays/cubicles/bedrooms) shall be provided with windows to enable unobstructed outdoor view.				
8.10.	Sterile Preparation Room (SPR) / Buffer area and Anteroom / pharmacy				
8.11.	Patient treatment areas shall consist of treatment bays to provide chemotherapy to patients.				
8.12.	The treatment bays size shall be a minimum of nine (9) sq. meters with a clear width of three (3) meters along the back of the bay to ensure appropriate service placement, infusion equipment and curtain track placement for treatment chairs.				
8.13.	Spaces shall be twelve (12) sq. meters where patients receive chemotherapy infusions in beds rather than chairs.				
8.14.	The size of the clean utility shall be twenty (20) sq. meters if drug fridges are required to store chemotherapy intravenous fluid bags in this area.				

8.15.	Staff workstation shall preferably have an unobtrusive view of all patient treatment areas. The inclusion of decentralized staff areas may be considered in larger units that have multiple rooms or treatment spaces.				
8.16.	There shall be provision of working spaces for visiting multidiscipline team members.				
8.18.	Consideration to the type of floor finishes as staff movement to/from and between patients during chemotherapy treatments and review is constant e.g. cushioned vinyl.				
8.20.	Nurse call and emergency call facilities shall be provided in all patient areas (e.g. bed/chair spaces, toilets etc.) and clinical areas in order for patients and staff to request for urgent assistance. The alert to staff members shall be done in a discreet manner.				
8.21.	Provision of duress alarm system shall be provided for the safety of staff members who may at times face threats imposed by clients / visitors. Call buttons shall be placed at all reception / staff station areas and consultation / treatment areas where a staff may have to spend time with a client in isolation or alone. The combination of fixed and mobile duress units shall be considered as part of the safety review during planning for the unit.				
8.22.	Inclusion of medical gases (oxygen and suction) units of one (1) per two (2) chairs shall be provided.				
8.25.	Hand washing facilities with liquid soap dispenser, disposable paper towels and personal protection equipment (PPE) shall be readily available for staff within the unit.				

8.26.	Storeroom for general storage, fluids and equipment shall be located in the perimeter of the unit and accessible by a palette lifter if required for delivery of bulk fluids and clinical stores.				
8.27.	Shelving shall have a minimum of hundred-(100) kg weight capacity and shelves need to be at least four hundred (400) mm apart and adjustable.				
8.29.	The chemotherapy unit shall maintain a crash cart to deal with emergencies.				
8.31.	Services that support and are linked with chemotherapy may include:				
8.31.1.	Physiotherapy (Lymph oedema management)				
8.31.2.	Occupational therapy				
8.31.3.	Dietetic / Nutrition services				
8.31.4.	Clinical Psychology				
8.31.5.	Social work services				
8.31.6.	Community and outreach cancer services				
8.31.7.	Palliative Care and hospice				
8.31.8.	Complementary therapies (e.g. relaxation, stress management and massage)				
8.31.9.	Wig and prosthesis services.				
8.32.	**Cytotoxic waste:**				
8.32.1.	Breakable contaminated needles, syringes, ampoules, broken glass, vials, intravenous sets and tubing, intravenous and intravesical catheters etc. shall be placed into designated leak-proof; puncture proof sharps containers that clearly and visibly displays the cytotoxic hazard symbol.				
8.32.2.	Non-breakable contaminated materials including				

	disposable gowns, gloves, gauzes, masks, intravenous bags, etc. shall be placed in thick sealed plastic bags, hard plastic or cytotoxic containers that clearly and visibly display the cytotoxic hazard symbol. When full, the bags and containers shall be placed in the oncology waste container.				
8.32.3.	Clearly marked chemotherapy waste receptacles shall be kept in all areas where cytotoxic drugs are prepared or administered.				
8.32.5.	Cytotoxic waste shall be destroyed in an incinerator approved for the destruction of cytotoxic drugs.				
8.32.7.	Special written protocol shall be maintained for:				
8.32.7.1.	Management of an incident in case a patient/family member is contaminated with a cytotoxic agent.				
8.32.7.2.	Management of cytotoxic spill in or outside the BSC.				
8.32.7.3.	Safe transportation of cytotoxic agents.				
10	**Pediatric Oncology Care**				
10.1.3.	Have access to an up-to-dated diagnostic imaging facilities to perform radiography, computed tomography, magnetic resonance imaging, ultrasonography, radionuclide imaging, and angiography; positron-emission tomography (PET CT) scanning and other emerging technologies are desirable.				
10.1.4.	Have an up-to-date radiation-therapy equipment with facilities for treating pediatric patients shall be available.				
10.1.5.	Have an access to hematopathology laboratory capable of performing cell-phenotype analysis using flow cytometry, immunohistochemistry, molecular diagnosis,				

	and cytogenetic and access to blast colony assays and polymerase chain reaction-based methodology shall be available.				
10.1.6.	Have access to hemodialysis and/or hemofiltration and apheresis for collection and storage of hematopoietic progenitor cells.				
10.1.7.	Have a clinical chemistry laboratory with the capability to monitor antibiotic and antineoplastic drug levels.				
10.1.8.	Have an access to blood bank capable of providing a full range of products including irradiated, cytomegalovirus negative, and leuco-depleted blood components.				
10.1.9.	The facility shall have a pharmacy capable of accurate, well-monitored preparation and dispensing of antineoplastic agents and investigational agents.				
10.1.10.	Have the capability of providing sufficient isolation of patients from airborne pathogens, which can include high-efficiency particulate air (HEPA) filtration, or laminar flow and positive/negative pressure rooms.				
11	**Support areas for Oncology Patient care**				
11.1.	The support areas for an oncology center can be clerical space or rooms for typing and clerical work.				
11.1.1.	Multiuse rooms for meetings, and health education.				
11.1.2.	Medication station/ medication preparation area				
11.1.3.	Medicine Storage Area				
11.1.4.	Equipment and supply storage				
11.2.	Medication station/ medication preparation area- there shall be a medication dispensing station or a medication preparation area. Provisions shall be made for the controlled storag preparation, distribution, and				

	refrigeration of medications				
11.3.	Medicine Storage Area- An enclosed area close to the medication station or medication preparation area.				
11.4.	Health records filing cabinets and storage shall be provided for the safe and secure storage of patient's health records with provisions for easy retrieval. Provisions shall be made for proper securing of the health records.				
11.5.	Nourishment area- a nourishment station is provided.				
11.6.	Clean Supply room- This room is used for preparing patient care items, it shall contain the following:				
11.6.1.	Work counter				
11.6.2.	Hand-washing station				
11.6.3.	Storage facilities for clean and sterile supplies. This room is used only for storage and holding as part of a system for distribution of clean and sterile materials.				
11.7.	Soiled workroom -A soiled workroom shall be provided with in close proximity to the and shall contain the following:				
11.7.1.	A flushing-rim sink				
11.7.2.	A hand-washing station				
11.7.3.	A work counter				
11.7.4.	Storage cabinets				
11.7.5.	Waste receptacles				
11.7.6.	A soiled linen receptacle				
11.8.	Equipment and supply storage- The oncology center shall make provisions for the following requirements:				
11.8.1.	General storage area for supplies and equipment.				

11.8.2.	Special storage for staff personal belongings with lockable drawers or cabinets.				
11.8.3.	Storage areas for non-clinical records, documents, and office supplies.				
11.9.	The storage area shall have easy access.				
11.10.	The storage area shall be temperature controlled.				
11.11.	All material shall be clearly marked with expiration dates.				
11.12	Clean linen storage- if blankets or other linens are used, a clean linen storage area shall be provided.				
11.13.	Location of the clean linen storage area within the clean workroom, a separate closet, or an approved distribution system shall be permitted. If a closed cart system is used, storage in an alcove shall be permitted. It must be out of the path of normal traffic and under staff control.				
11.14.	Wheel chair storage place shall be provided out of the direct line of traffic for at least one (1) facility-owned wheelchair.				
12	**Healthcare Professionals requirement**				
12.11.11.	There shall be a documented Quality Assurance Program (QAP) to ensure quality patient care through objective and systematic monitoring, evaluation, identification of problems and action to improve the level and appropriateness of care. The QAP shall include:				
12.11.11.1.	Documented policies and procedures related to the safety while conducting all patient care activities.				
12.11.11.2.	Documented regular biannual reviews of the policies				

	and procedures.				
12.12.	**Nursing Staff**				
12.12.1.	Nurses with specialized knowledge and skills shall provide oncology-nursing care.				
12.12.2.	The nurse in-charge must be a qualified DHA licensed Registered Nurse (RN), with at least two (2) years of experience in oncology.				
12.12.3.	The ratio of trained RNs/ patients shall be 1: 3 at a given time.				
12.13.	**Biomedical Engineer**				
12.13.1.	Employ a biomedical engineer or have contracts with the manufacturers of the equipment for regular monitoring and maintaining equipment.				
12.14.	**Radiation Safety Officer**				
1.1.1.	Uses ionizing radiations for medical use may be required to have a Radiation Protection Program (RPP).				
12.15.	Quality Assurance officer				
13	**Patient Assessment**				
13.1.	An effective patient assessment process aims to be comprehensive, includes multidisciplinary teams and is based on clinical and priority needs of each individual patient. Such assessment shall result in identification and decisions regarding the patient's condition and continuation of treatment as the need arise. The oncology center shall have policies and procedures on patient assessment:				
13.1.1.	On admission				
13.1.2.	Following a change of health status				
13.1.3.	After a fall				

13.1.4.	When patient is transferred from one level of care to another.				
14	**Patient care Types of materials provided to the patients**				
14.6.	Have a policy and procedure of systems such as ways of providing patients reminders and follow-up calls from members of the care team.				
14.8.	Provide for a formal program for cancer education for the family and instruction on selfmanagement.				
16	**Psychosocial Services**				
16.3.	A policy or procedure is in place to ensure patient access to psychosocial services.				
17	**Rehabilitation Services**				
17.3.	A policy or procedure is followed to access rehabilitation services.				
18	**Nutrition Services**				
18.2.	An adequate spectrum of services shall be available (screening and referral for nutrition-related problems, comprehensive nutrition assessment, nutrition counseling, and education) either onsite or by referral, with a procedure in place to ensure patient awareness of and access to services.				
18.3.	A policy or procedure in place to access nutrition services.				
20	**Critical Care Services**				
20.1.	In case of a freestanding oncology center, it must have an contract/ agreement with a hospital with an Intensive Care Unit (ICU), which must be accessible within a maximum of 10 minutes' drive from it to receive patients in case of emergency.				

21	Emergency Services				
21	The oncologist in charge shall ensure that there are facilities for emergency resuscitation, as well as documented protocols/procedures to deal with cardiopulmonary collapse and urgent medical treatment as patients may develop hypotension, fits or collapse during treatment. In addition, the oncologist in charge must:				
21.1.	Ensure that there are prior arrangements made for patients receiving treatment to be admitted in a nearby hospital in case of a freestanding facility, shall the need arise, within 10 minutes' driving time.				
21.2.	Ensure that there are standing arrangements with other healthcare professionals to provide immediate medical care in the event that the physician in charge is not available.				
21.3.	Ensure there is an ambulance available at any given time to transfer the patient to a hospital in case of any medical emergency.				
21.4.	Ensure that the ambulance service is accessible and at close proximity.				
21.5.	In case the oncology center has its own ambulance service the ambulance services shall be ready with licensed, trained and qualified Emergency Medical Technicians (EMT) for patient transportation if required, this service can be outsourced with a written contract with an emergency services provider licensed in Dubai. Clear patient transport protocol shall be maintained.				
21.6.	The ambulance shall maintain the following, but not				

	limited to:				
21.6.1.	Sets of instruments, which shall include suturing set, dressing set, foreign body removal set or minor set and cut down set.				
21.6.2.	Disposable supplies which shall include suction tubes (all sizes), tracheostomy tube (all sizes), intravenous cannula (different sizes), IV sets, syringes (different sizes), dressings (gauze, sofratulle, etc.), crepe bandages (all sizes), splints (Thomas splints, cervical collars, finger splints).				
21.6.3.	Portable vital signs monitor (ECG, Pulse-Oximetry, Temperature, NIBP, and EtCO2).				
21.6.4.	Portable transport ventilator with different ventilation mode (IPPV, SIMV, spontaneous, PS).				
21.6.5.	Suction apparatus.				
21.7.	Emergency drugs, devices, equipment and supplies must be available for immediate use in the emergency area for treating life-threatening conditions.				
21.8.	Storage areas for general medical or surgical emergency supplies, medication and equipment shall be under staff control and out of path of normal traffic.				
21.9.	A record must be kept for each patient receiving emergency services and must be integrated into the patient's health records, the record shall patient name, date, time and method of arrival, physical findings, care and treatment provided, name of treating doctor and discharging/transferring time.				
21.10.	Transfer Planning				
21.10.1.	The oncology center shall maintain policies and				

	procedures concerning patient transfer which reflect acceptable standards of practice and compliance with applicable regulations in Dubai.				
21.10.4.	A transfer sheet shall be prepared for all patients being transferred requiring further treatment.				
21.10.5.	A referral letter shall be given to the patient or family/patient representative. Patient shall not be sent under any circumstances to another facility without prior approval.				
22	**Safety**				
22.1.	There must be provision for emergency electric power supply for equipment in case of power failure.				
22.2.	Fire safety equipment shall be accessibly placed with visibly displayed directions to use the equipment.				
22.3.	Fire escapes shall be clearly visible.				
23	**Death of Patient/ Care of Deceased Patients**				
23.1.	Death in a facility providing oncology services shall be considered a sentinel event. A policy for mortuary management covering this rare and tragic event shall be available in the facility.				
23.3.	The oncology facility shall maintain a policy in handing dead bodies to assure respect and dignity of the deceased.				
23.5.	A record of such sentinel events shall be maintained by the oncology facility.				