حكومة دبي
GOVERNMENT OF DUBAI

هيئة الصحة بدبي
DUBAI HEALTH AUTHORITY

DHA Health Facility Guidelines 2019

Part B – Health Facility Briefing & Design

210 – IVF Unit (Fertilisation Centres)

800342 (DHA) | dha.gov.ae
@dha_dubai
Dubai Health Authority

Executive Summary

This Functional Planning Unit (FPU) covers the requirements of an IVF Unit also known as a Fertilisation Centre, that may be provided as a stand-alone centre or a Unit located within a hospital.

The IVF Unit provides facilities for In vitro fertilisation (IVF) procedures. IVF is one of several Assisted Reproductive Techniques (ART) used to help couples conceive a child. Due to the highly sensitive nature of this Unit and its pertaining practices all Fertilisation Centres are licensed by The Fertilisation Centres Oversight and Control Committee and must adhere to its laws and regulations.

The IVF Unit is arranged in Functional Zones that include Entry/ Consult Areas, Patient/ Procedural Areas, Operating/ Procedure Rooms and Recovery, Laboratory Areas, Support and Staff Areas. The Reception is the receiving hub and serves as the access control point ensuring security of the unit. Waiting Areas should be located at the Entry with ready access to Consult and Interview rooms. Patient Procedural areas should be located with ready access to Consulting, Treatment, Recovery areas, and Laboratories. Laboratories should be in a restricted access area, with direct connection to Collection rooms and Operating/ Procedures Rooms. Support and Staff Areas should be separate from patient accessible areas. The Functional Zones and Functional Relationship Diagram indicates the ideal external relationships with other key areas and services.

This FPU describes the minimum requirements for support spaces of a typical IVF Unit at Role Delineation Level (RDL) 6. The typical Schedule of Accommodation is provided using Standard Components (typical room templates) with room areas and quantities. Non-Standard Components identified in the Schedule are described in the text.

Users who wish to propose minor deviations from these guidelines should use the **Non-Compliance Report** (**Appendix 4 in Part A**) to briefly describe and record their reasoning based on models of care and unique circumstances.

The details of this FPU follow overleaf.

Table of Contents

210. IVF Unit (Fertilisation Centres)

1 Introduction

The IVF Unit provides facilities for In Vitro Fertilisation (IVF) procedures. IVF is one of several Assisted Reproductive Techniques (ART) used to help couples conceive a child. The procedure involves removal of eggs (mature Oocyte or Ovum) from the woman's ovary. Ova are then fertilised with sperm in a laboratory procedure (in vitro). If fertilisation occurs, a fertilised ovum, after undergoing several cell divisions, is transferred to the mother for normal development in the uterus, or frozen for later implantation.

The IVF laboratory may use Intracytoplasmic Sperm Injection (ICSI) in the process of IVF.

Services provided by the IVF Unit include:

- Patient consultation, interview and financial counselling on an outpatient basis
- Pre-treatment assessment
- Blood collection
- Semen collection
- Artificial insemination
- Ovarian stimulation therapy
- Ultrasound examination
- Oocyte (egg) collection
- Embryo culture
- In vitro / ICSI fertilisation
- Cryopreservation
- Embryo transfer

- Recovery.

1.2 Licensing of Unit

IVF Units (Fertilisation Centres) require licensing according to the requirements of pertaining laws of the United Arab Emirates. Please refer to local licensing laws for additional information on the licensing process for IVF Units.

2 Functional & Planning Considerations

2.1 Operational Models

The range of options for an IVF Unit may include:

- A standalone centre, fully self-contained
- A dedicated fully self-contained Unit within a hospital
- A Unit collocated with a clinical specialty such as Obstetrics and Gynaecology in a hospital

The IVF Unit should be ideally located on the Ground floor. If located on an upper floor, there must be a stretcher carrying lift available.

Patients undergoing IVF procedures may be admitted and discharged on the same day or transferred from and to a referring unit.

2.1.1 Hours of Operation

The IVF Unit generally operates on a long day basis, typically 8am to 6pm, with AM and PM shifts, commonly 6 days a week with admissions from early morning. It should be noted that there are no limits or restrictions on hours of operation. Procedures are undertaken on a sessional basis with discharges/ transfers into the evening. Patient care requirements and flexible work schedules may require hours of operation to be extended to evenings and weekends to meet demand and operational policies.

3 Unit Planning Models

3.1 Functional Zones

The IVF Unit consists of individual spaces, areas or zones which serve various service modules that combine to form a larger facility with a similar purpose. The relationship between Areas/ Zones is considered important to ensure that the Unit operates efficiently and effectively.

The IVF Unit may consist of a number of Functional Zones:

- Entry/ Consult Area
  - Entry/ Reception and Waiting Areas
  - Administration/ Records
  - Interview Room/s
  - Public Toilets
- Patient Procedural Area
  - Consult/ Examination and Treatment Room/s
  - Ultrasound Room/s
  - Collection Room/s with Ensuite shower and Toilet
  - Operating Room/s for oocyte (egg) collection and re-implantation with Scrub rooms
  - Recovery areas with bays for linen and resuscitation trolley, Clean and Dirty Utilities
  - Change areas and toilets for staff and patients
- Laboratory Areas
  - Laboratories (Andrology, Embryology, IVF, ICSI, Andrology, Genetics)
  - Cryopreservation facilities
  - Gas Bottle Store - typically, liquid nitrogen and rest of gases piped
- Staff and Support Area
  - Clean-Up and Disposal Room
  - Store rooms and Sterile Store
  - Offices, Meeting Rooms, Staff Room
  - Sterilising area; if the IVF unit is a stand-alone building, dedicated sterilising facilities are required

3.1.1 Entry/ Reception and Waiting

The Entry and Reception provides the first point of contact for clients. The Reception also serves as the main access control point for the unit to ensure security of the Unit. Waiting Areas should be in an enclosed private area that is not open to passing traffic. Waiting areas should be divided for gender separation, although family waiting pods may be an option.

3.1.2 Procedural Areas

3.1.2.1 Collection Room/s

Collection room/s should be discreet and private, enclosed rooms for collection of sperm samples from patients.

The Collection rooms have a close functional relationship with the Andrology Laboratory; rapid delivery of specimens is required to prevent cell deterioration. The Collection Rooms require an Ensuite shower/ toilet.

3.1.2.2 Operating Room/s

Operating Room/s) include equipment and facilities for egg collection and embryo transfer, under local anaesthetic. Operating Rooms require adjacent Patient and Staff Change Rooms, scrub sink and patient toilet facilities.

3.1.3 Laboratory Areas

Strict protocols for handling and labelling patient specimens in all Laboratory Areas are required. Laboratory Areas should be zoned in a restricted staff access only area.

3.1.3.1 Embryology/ IVF/ ICSI Laboratory

The Embryology Laboratory provides facilities for the handling, preparation, culture and storage of human gametes (sperm and oocytes). Due to the sensitive nature of its functions, the embryology laboratory should be located in a secure and sterile area away from the outpatient/ clinic facilities but in close proximity to the procedure room where the oocytes (eggs) are collected. The laboratory

is responsible for identifying oocytes in ovarian fluid, culturing these eggs with the partner's sperm, and embryo examination prior to embryo implantation into the patient.

The ICSI (Intracytoplasmic Sperm Injection) laboratory involves the process of injecting a single sperm into the nucleus of the egg using a microscopic needle without affecting the viability of the egg. The zygote (fertilised egg) is then monitored until it starts to divide forming a small cluster of cells known as the blastocyst (in approximately 5 days in the lab) which is then reimplanted to form an embryo. The space is enclosed for specialty laboratory functions.

The IVF/ICSI Laboratory should be located with a direct relationship to the Operating Room/s for oocyte collection and re-implantation. A pass-through hatch from the Laboratory to each Operating Room is recommended.

3.1.3.2 Andrology Laboratory

The Andrology laboratory performs the evaluation, testing, preparation and storage of sperm specimens. Diagnostic procedures include:

- Semen analysis to determine sperm count, motility, viability and morphology
- Preparation of sperm for fertilization and Intrauterine Insemination (IUI) and thawing of frozen specimens.

The laboratory includes benches and storage units for examination of specimens. The space is enclosed for specialty laboratory functions.

The Andrology Laboratory has a close working relationship with the IVF/ICSI Laboratories. The Collection Room/s should be located in close proximity. Access to the laboratory should be limited.

3.1.3.3 Genetics Laboratory

The Genetics Laboratory undertakes cytogenetics studies of the embryo cells, particularly the nucleus which contains the chromosomes that carry genes and their DNA to determine the status

of the embryo after IVF and before re-implantation, also referred to as Pre-implantation Genetic Diagnosis (PGD).

This process can also identify and diagnose abnormalities and genetic diseases that may accompany the pregnancy by the use of sophisticated techniques such as Fluorescence In-Situ Hybridization (FISH) or Polymerase Chain Reaction (PCR). The functions performed in the Genetics Laboratory may be included in the IVF/ ICSI Laboratory.

The Genetics Laboratory has a close working relationship with the IVF/ ICSI Laboratory.

3.1.3.4 Cryopreservation Facilities

Facilities for cryopreservation include a separate room for storage of frozen reproductive cells (gametes, zygotes and embryos) in liquid nitrogen storage tanks. Nitrogen tanks should be stored in an enclosed space in case of nitrogen leakage.

The Cryopreservation storage area should be located in close proximity to the Laboratory areas, in an area with controlled access. A monitoring system is required for low levels of liquid nitrogen in the storage tanks and for high levels of nitrogen in the air.

Strict protocols on the method of storage and specimen labelling are required for this process (refer to local regulations and licensing laws) and include:

- Infection control (minimising the risk of cross contamination of frozen gametes, zygotes and embryos)
- Labelling, packaging and documentation of tissue frozen

Embryo freezing requires a separate request to the Dubai Health Authority. This must include the request signed by a medical director, a marriage certificate, and a valid Emirates ID. Egg and sperm freezing may occur without such request over an indefinite period.

3.1.4 Staff and Support Areas

3.1.4.1 Decontamination Room

All recyclable articles (including delivery trolleys) are sorted, rinsed, ultrasonically cleaned or mechanically washed and dried. Required to maintain effective barriers for infection control.

3.1.4.2 Sterilising/ Packing Room

The Sterilising/ Packing Room is an area where cleaned and dried instruments are sorted, assembled into sets, packaged, and then sterilised in an autoclave.

The Sterilising/ Packing Room is located adjacent to the Clean-up Room where the instruments are cleaned and decontaminated.

The room requires a defined unidirectional workflow for instruments from clean to sterile and then to sterile store. Sterile stock should not be stored in this room to avoid the potential for mixing unsterilized instrument sets with sterile sets.

4 Functional Relationships

A Functional Relationship can be defined as the correlation between various areas of activity whose services work together closely to promote the delivery of services that are efficient in terms of management, cost and human resources.

4.1 External Relationship

The IVF Unit has close functional relationships with the following areas or Units:

- Laboratory Unit
- Pharmacy

The ideal External Relationships are demonstrated in the diagram below including:

- A distinct relationship between the main Entry, car parking and public corridors
- Entrance for services and supplies via a service entry

- Entry for patients and staff through separate entries via a public corridor.

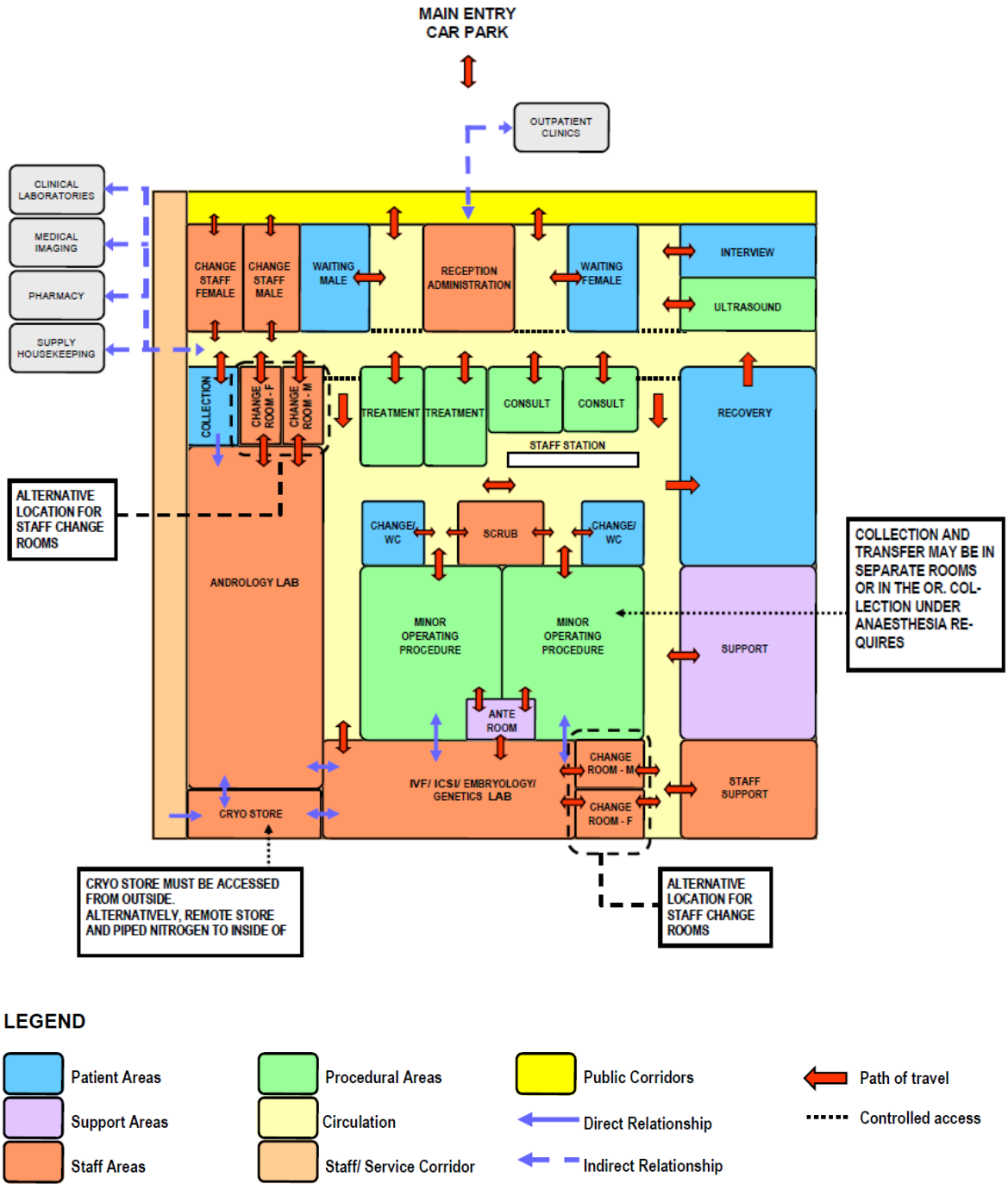
4.2 Internal Relationship

Within the IVF Unit, preferred functional relationships include:

- Reception, Administration and Waiting Areas at the entry to the Centre, where Reception may act as a control point
- Ready access to Consult, Treatment and Ultrasound Rooms from Waiting Areas and to Operating/ Procedures Rooms
- Laboratories should be located in a separate zone away from the Consult area and secured with entry through an Anteroom
- Embryology (IVF/ ICSI) Laboratory areas located with a direct adjacent relationship to the Operating/Procedure rooms for egg collection and re-implantation
- Collection rooms have a direct functional relationship with the Andrology Laboratory; specimens require rapid transfer, of within a 2-minute period, to the laboratory to avoid deterioration. An adjacent toiled should be provided.

4.3 Functional Relationships Diagram

The Functional Relationship of a typical IVF Unit either as a stand-alone unit or as part of a larger facility are demonstrated in the diagram below.



5 Design Considerations

5.1 General

The design of the Unit should create a pleasant, reassuring atmosphere for patients whilst retaining the necessary functional requirements associated with clinical spaces and laboratories. Ideally, waiting areas should be divided into several small 'Family Waiting' zones to allow partners or close relatives to wait in relative privacy.

Consideration may be given to a private and discreet entry area for patients, away from general public view.

5.2 Environmental Considerations

5.2.1 Acoustics

The IVF Unit should be designed to minimise the ambient noise level within the unit and transmission of sound between patient areas, staff areas and public areas. Consideration should be given to the location of noisy areas or activity, preferably placing them away from quiet areas including consult rooms. Confidential patient information is exchanged between patients and staff, therefore the Interview, Consult, Collection and Treatment Rooms should be acoustically treated to maximise privacy.

Acoustic treatment is required to the following:

- Waiting Areas should be located further away from the Consult Rooms, Treatment spaces and Staff Areas
- Interview Areas with clients require acoustic treatment in order to maintain the confidentiality of conversations between clients and clinicians
- Meeting Rooms and discussion areas for staff where confidential patient information is shared require acoustic treatment

- Consultation/ Treatment Areas where loud equipment may be used or noise producing treatments are likely to take place should be treated to minimise the transmission of noise.

5.2.2 Natural Light/ Lighting

The use of natural light should be maximised throughout the Unit. Windows are an important aspect of sensory orientation and psychological well-being of patients and staff. Windows should be provided to all patient and staff spaces wherever possible.

External lighting must be addressed for stand-alone units, including car parking areas, particularly if the Unit is accessed after-hours, according to Local Authority requirements.

5.2.3 Privacy

Privacy is essential for confidential conversations and interviews to minimise stress and discomfort for patients. Patient privacy and confidentiality can be enhanced by provision of private interview rooms for personal discussions between staff and patients.

Areas should be designed to avoid direct views into patient Consult and Treatment spaces from the outside, through windows and through doors. Privacy curtains should be provided where necessary. Waiting Areas may include segregated smaller areas for families.

5.3 Ergonomics / OH&S

Laboratories should be designed with consideration to ergonomics to ensure an optimal working environment which minimises the risk of distraction, fatigue and thereby making a mistake. Aspects for consideration include height of benches and chairs, height of equipment in constant use such as microscopes and bio-safety cabinets.

Refer also to **Part C - Access, Mobility, OH&S** of these Guidelines.

5.4 Safety and Security

The IVF Unit shall provide a safe and secure environment for patients, staff and visitors, while remaining a non-threatening and supportive atmosphere conducive to optimal healthcare outcomes. Patients and family members attending the IVF Unit may require access to lockable storage for personal items. Zones within the Unit require access control to prevent unauthorised access, particularly laboratory areas, cryopreservation areas and staff office areas.

The facility, furniture, fittings and equipment must be designed and constructed in such a way that all users of the facility are not exposed to avoidable risks of injury.

The IVF Unit, either stand-alone or located within a hospital precinct requires sufficient external security which may include CCTV surveillance. The perimeter of the Centre must be lockable.

Internal Areas should be planned with a high level of security including:

- Zoning areas and grouping similar functions together with electronic access to areas
- Provide access and egress control which may use the Reception as the control point
- Provide good visibility to waiting and patient areas for staff
- Use of shutters and screens to provide additional security to public access points.

5.5 Finishes

Internal finishes including floor, walls, joinery, and ceilings should be suitable for the multipurpose function of the unit while promoting a pleasant environment for patients, visitors and staff.

The following factors shall be considered:

- Aesthetic appearance
- Acoustic properties
- Durability

- Fire safety
- Ease of cleaning and compliant with infection control standards
- Suitable floor finishes with respect to slip resistance, movement of equipment and impermeable to fluids in treatment areas
- Laboratory, Storage and Procedural areas should have vinyl or similar impervious floors; patient recovery areas and staff offices may be carpeted.

For further details refer to **Part C – Access, Mobility and OH&S** and **Part D – Infection Control** in these Guidelines.

5.6 Fixtures and Fittings

Critical items of equipment including incubators and liquid nitrogen storage should be temperature alarmed and monitored. Consideration should also be given to emergency and uninterruptible (UPS) power supplies to critical equipment such as incubators, refrigerators and biosafety cabinets.

For further details refer to **Part E – Engineering Servicess** in these Guidelines.

5.7 Building Service Requirements

This section identifies unit specific services briefing requirements only and must be read in conjunction with **Part E - Engineering Services** for the detailed parameters and standards applicable.

5.7.1 Information and Communication Technology

Unit design should address the following Information Technology/ Communications issues for optimal operation of the Unit:

- Electronic health records, prescriptions and investigation requests
- Patient Administration Systems (PAS), including patient booking systems
- Computers including mobile and handheld units, email and paging systems

- Data and communication outlets, servers and communication room requirements
- Picture Archiving Communication System (PACS)
- Electronic supplies management systems
- Optional availability of Wi-Fi for staff, patients and waiting visitors
- Video-conferencing teleconferencing and telemedicine requirements.

5.7.2 Staff Call/ Duress Alarm

Hospitals must provide an electronic call system next to each treatment space including Consult, Examination, Procedure, Treatment Rooms and Patient Areas (including toilets) to allow for patients to alert staff in a discreet manner at all times.

All calls are to be registered at the Staff Station and must be audible within the service areas of the Unit including Clean Utilities and Dirty Utilities. If calls are not answered the call system should escalate the alert accordingly. The Staff Call system may also use mobile paging systems or SMS to notify staff of a call.

Provision of a Duress Alarm System is required for the safety of staff members who may occasionally face threats imposed by clients/ visitors. Duress call buttons are required at all Reception/ Staff Stations, Consult Rooms and Treatment Rooms where staff may spend time with a client in isolation or alone. The combination of fixed and personal duress units should be considered as part of the safety review during planning for the unit.

5.7.3 Heating, Ventilation and Air-conditioning (HVAC)

The air conditioning system in the unit should be designed to maintain a comfortable temperature range in Patient Areas including Waiting Areas, Meeting Rooms, Therapy Areas and Consult Rooms.

All HVAC requirements are to comply with services identified in Standard Components and **Part E – Engineering Services** in these Guidelines.

5.7.4 Hydraulics

Warm water shall be supplied to all areas accessed by patients within the Centre. This requirement includes all staff handbasins and sinks located within patient accessible areas. Sinks in Staff Areas shall be provided with hot and cold water services.

For further information and details refer to **Part E – Engineering Services** in these Guidelines.

5.8 Infection Control

All assisted reproductive techniques involve handling of biological material and therefore pose a potential infection control risk to staff and to other patients' reproductive cells (gametes, zygotes, embryos).

Strict infection control measures are required within the unit to protect laboratory staff from potentially contaminated body fluids (follicular fluid etc.) and to ensure aseptic environment for reproductive cells, preventing cross infection. Measures include:

- Handbasins for staff handwashing in all patient areas and laboratories
- Use of laboratory clothing in laboratories
- Use of theatre clothing in procedure rooms
- Use of laminar flow biosafety cabinets in laboratories (a Class II cabinet should be available for handling of contaminated samples)
- Sharps containers and clinical waste collection and removal.

5.8.1 Hand Basins

Handwashing facilities are required in Corridors, Patient and Treatment Areas and the other areas specified in the Standard Components.

Handwashing facilities shall not impact on minimum clear corridor widths. At least one Handwashing Bay is to be conveniently accessible to Staff and Treatment Areas. Handbasins are to comply with **Standard Components – Bay - Handwashing** and **Part D - Infection Control**.

Hand Basins in Patient Areas should be used solely for infection control purposes.

5.8.2 Antiseptic Hand Rubs

Antiseptic hand rubs should be located so they are readily available for use at points of care and in high traffic areas. The placement of alcohol-based hand rubs should be consistent and reliable throughout facilities. Antiseptic hand rubs are to comply with **Part D - Infection Control**, in these Guidelines.

In Operating Rooms and Laboratories, alcohol-based hand rubs are not allowed, as they are embyo-toxic. Special chemicals are used instead for laboratory and operating room cleaning. There should be a minimum of two cleaners' rooms - one for the laboratory and operating room, and another one for outpatients.

Antiseptic Hand Rubs, although very useful and welcome, cannot fully replace Handwashing Bays. Both are required in all clinical FPUs.

6 Standard Components of the Unit

Standard Components are typical rooms within a health facility, each represented by a Room Data Sheet (RDS) and a Room Layout Sheet (RLS).

The Room Data Sheets are written descriptions representing the minimum briefing requirements of each room type, described under various categories:

- Room Primary Information; includes Briefed Area, Occupancy, Room Description and relationships, and special room requirements)

- Building Fabric and Finishes; identifies the fabric and finish required for the room ceiling, floor, walls, doors, and glazing requirements
- Furniture and Fittings; lists all the fittings and furniture typically located in the room; Furniture and Fittings are identified with a group number indicating who is responsible for providing the item according to a widely accepted description as follows:

Group	Description
1	Provided and installed by the builder
2	Provided by the Client and installed by the builder
3	Provided and installed by the Client

- Fixtures and Equipment; includes all the serviced equipment typically located in the room along with the services required such as power, data and hydraulics; Fixtures and Equipment are also identified with a group number as above indicating who is responsible for provision
- Building Services; indicates the requirement for communications, power, Heating, Ventilation and Air conditioning (HVAC), medical gases, nurse/ emergency call and lighting along with quantities and types where appropriate. Provision of all services items listed is mandatory

The Room Layout Sheets (RLS's) are indicative plan layouts and elevations illustrating an example of good design. The RLS indicated are deemed to satisfy these Guidelines. Alternative layouts and innovative planning shall be deemed to comply with these Guidelines provided that the following criteria are met:

- Compliance with the text of these Guidelines
- Minimum floor areas as shown in the schedule of accommodation
- Clearances and accessibility around various objects shown or implied

- Inclusion of all mandatory items identified in the RDS

The Health Centre consists of Standard Components to comply with details described in these Guidelines. Refer to Standard Components Room Data Sheets (RDS) and Room Layout Sheets (RLS) separately provided.

The IVF Unit contains Standard Components to comply with details described in these Guidelines. Refer to Standard Components Room Data Sheets and Room Layout Sheets.

6.1 Non-Standard Rooms

Non-standard rooms are rooms are those which have not yet been standardised within these guidelines. As such there are very few Non-standard rooms. These are identified in the Schedules of Accommodation as NS and are separately covered below.

6.1.1 Collection Room/s

The Collection rooms shall be located adjacent to the Andrology Laboratory for rapid delivery of specimens. The Collection Rooms require an ensuite shower / toilet.

The rooms should include:

- Comfortable seating
- Handbasin and fittings including soap and paper towel dispenser
- TV, DVD player
- Acoustic treatment
- A pass-through hatch for specimens

6.1.2 Laboratories

Laboratories are to comply with applicable statutory requirements and international standards for clean rooms. The construction of the laboratories should ensure aseptic and optimal handling of reproductive tissue during all stages of the process.

Air conditioning for the IVF/ ICSI/ Andrology Laboratories should include HEPA filters, controlled humidity (20%) and controlled temperature (22 – 24 degrees C). Please refer to Part E-Engineering in these Guidelines for further details.

6.1.3 IVF/ ICSI Laboratory

The IVF/ICSI Laboratory should be located adjacent to the Operating Room/s for oocyte collection and re-implantation. A pass-through hatch from the Laboratory to each Operating Room is recommended.

Staff change and handwash areas should be located at the laboratory entry. Access to the laboratory should be limited.

Fittings and Equipment to be located in this laboratory include:

- Laboratory benches and storage units
- Laminar flow IVF workstation cabinets
- Bench top microscopes, inverted microscope, stereomicroscope
- CO2 Incubators
- Electrical pipettes
- Variable pipettes
- Fyrite analyser (CO2 and O2 gas analyser)
- Laboratory refrigerator

Laboratory equipment requires emergency power, temperature monitoring and alarms.

6.1.4 Andrology Laboratory

The Andrology Laboratory should be located adjacent to the IVF/ICSI Laboratories with close proximity to the Collection Room/s. Access to the laboratory should be limited.

Fittings and Equipment to be located in this laboratory include:

- Laboratory benches and storage units
- Laminar flow IVF workstation cabinets
- Bench top microscopes
- Automatic sperm analysing units, e.g. Mackler chamber
- CO2 Incubators
- Electrical pipettes
- Variable pipettes
- Fyrite analyser (CO2 and O2 gas analyser)
- Laboratory refrigerator
- Handbasin and staff change area at entry

Laboratory equipment requires emergency power, temperature monitoring and alarms.

6.1.5 Genetics Laboratory

The Genetics Laboratory should be located in proximity to the IVF/ ICSI Laboratory. Access to the laboratory should be limited.

Fittings and Equipment to be located in this laboratory include:

- Laboratory benches and storage units
- Laminar flow IVF workstation cabinets
- Bench top microscopes

- Laboratory refrigerator
- Handbasin and staff change area at entry

Laboratory equipment requires emergency power, temperature monitoring and alarms.

6.1.6 Cryopreservation Storage

The Cryopreservation storage area should be located in close proximity to the Laboratory areas, in an area with controlled access. The Store contains liquid nitrogen cylinders or dewars holding frozen tissue and liquid nitrogen tanks for topping up dewars.

The room requires:

- Efficient ventilation and exhaust
- Monitoring high levels of nitrogen in the room air
- Monitoring for low levels of nitrogen in the storage tanks

6.1.7 Sterilising/ Packing

The Sterilising/ Packing Room, for sorting, packing and sterilising instruments shall be located adjacent to the Clean-up Room where the instruments are cleaned and decontaminated. Clean instruments and laboratory equipment are received from the Clean-up room, preferably through a pass-through hatch.

Fittings and Equipment located in this room include:

- Handbasin
- Benches and cupboards
- Instrument packing table
- Heat sealing device
- Autoclave

- Cooling racks or trolleys

7 Schedule of Accommodation

The Schedule of Accommodation (SOA) provided below represents generic requirements for this Unit. It identifies the rooms required along with the room quantities and the recommended room areas. The sum of theroom areas is shown as the Sub Total as the Net Area. The Total area is the Sub Total plus the circulation percentage. The circulation percentage represents the minimum recommended target area for corridors within the Unit in an efficient and appropriate design.

Within the SOA, room sizes are indicated for typical units and are organised into the functional zones. Not all rooms identified are mandatory therefore, optional rooms are indicated in the Remarks. These guidelines do not dictate the size of t

he facilities, therefore, the SOA provided represents a limited sample based on assumed unit sizes. The actual size of the facilities is determined by Service Planning or Feasibility Studies. Quantities of rooms need to be proportionally adjusted to suit the desired unit size and service needs.

The Schedule of Accommodation are developed for particular levels of services known as Role Delineation Level (RDL) and numbered from 1 to 6. Refer to the full **Role Delineation Framwork** (**Part A - Appendix 6**) in these gduielines for a full description of RDL's.

The table below shows the SOA for a typical IVF Unit at RDL Levels 2-6.

For stand-alone facilities, designers may add any other FPU's required such as Main Entrance Unit, Medical Imaging Unit etc. based on the business model.

Any proposed deviations from the mandatory requirements, justified by innovative and alternative operational models may be proposed and record in the **Non-Compliance Report** (refer to **Part A - Appendix 4**) with any departure from the Guidelines for consideration by the DHA for approval.

7.1 IVF Unit

ROOM/ SPACE	Standard Component Room Codes									RDL 2-6 Qty x m^2			Remarks
Entry / Reception													
Reception	recl-15-d									1	x	15	Mandatory as per UAE Fertilization Legislation
Waiting - Male/Female	wait-10-d similar									2	x	15	Mandatory as per UAE Fertilization Legislation
Waiting - Family	wait-30-d									1	x	30	Optional
Store- Photocopy/ Stationery	stps-8-d									1	x	8	Optional
Store - Files	stfs-10-d similar									1	x	8	
Toilet - Male/Female	wcac-d									2	x	6	Mandatory as per UAE Fertilization Legislation
Patient/ Procedure Areas													
Meeting/ Interview Room – Family	intf-d									3	x	12	
Consult/ Exam Room	cons-d									4	x	13	1 per Physician - Mandatory as per UAE Fertilization Legislation
Collection Room	NS									2	x	6	Semen samples
Ensuite	ens-st-d									2	x	5	Adjacent to Collection Rooms
Blood Collection Bay	bldc-5-d									2	x	5	
Ultrasound Room	ultr-d									1	x	14	
Toilet – Patient	wcpt-d									1	x	4	For Ultrasound Room
Treatment Room	trmt-14-d									1	x	14	Single patient trolley. Injection teaching
Operating Room - General	orgn-d									2	x	42	Mandatory as per UAE Fertilization Legislation. The minimum required for Operating Room is $35m^2$
Change Cubicle - Accessible	chpt-d-d									2	x	4	For Patient; Optional based on operational policy; 1 Adjacent to each Operating Room
Toilet – Patient	wcpt-d									1	x	4	Shared in the Recovery Area
Toilet – Patient	wcpt-d									2	x	4	Optional; 1 Adjacent to each Operating Room

ROOM/ SPACE	Standard Component Room Codes										RDL 2-6 Qty x m^2			Remarks
Change – Staff (Male/Female)	chst-12-d										2	x	12	Includes toilets and change facilities
Scrub Up/ Gowning - Shared	scrbs-d										1	x	10	Shared between 2 Operating Rooms
Patient Bay – Holding/Recovery	pbtr-rs1-12-d										4	x	12	2 Bays per Operating Room Mandatory as per UAE Fertilization Legislation
Patient Bay – VIP - Enclosed	pbtr-rs1-12-d similar										1	x	14	Optional For special cases; if provided, it will replace one of the four Patient Bay – Holding/Recovery. Handwash basin type B to be provided in the room.
Bay – Handwashing, Type B	bhws-b-d										2	x	1	
Bay – Beverage	bbev-enc-d										1	x	5	
Bay – Linen	blin-d										1	x	2	
Bay – Resuscitation Trolley	bres-d										1	x	1.5	
Clean Utility	clur-12-d										1	x	12	
Dirty Utility	dtur-12-d similar										1	x	10	
Staff Station	sstn-14-d similar										1	x	10	
Laboratory Areas														
Andrology Laboratory	NS										1	x	40	Mandatory as per UAE Fertilization Legislation
IVF/ ICSI Laboratory - Embryology	NS										1	x	50	Mandatory as per UAE Fertilization Legislation
Genetics Laboratory	NS										1	x	20	PGD functions - Mandatory as per UAE Fertilization Legislation
Cryopreservation Store – Freezing Room	NS										1	x	15	Mandatory as per UAE Fertilization Legislation. Or 25m^2 for 2 Operating Rooms
Store – Gas Bottle	stfl-d similar										1	x	9	If not reticulated as part of the hospital
Support Areas														
Clean Up Room	clup-p-d										1	x	7	
Cleaners Room	clrm-6-d										2	x	6	One for Operating Room and Laboratories, and another for other rooms
Disposal Room	disp-8-d										1	x	8	
Sterilising/ Packing	NS										1	x	20	Locate adjacent to Clean Up Room
Store – Sterile Stock	stss-12-d										1	x	12	Mandatory as per UAE Fertilization Legislation

ROOM/ SPACE	Standard Component Room Codes									RDL 2-6 Qty x m^2			Remarks
Change Staff (Male/Female)	chst-12-d similar									2	x	10	Includes toilets and change facilities
Store – General	stgn-8-d similar									1	x	10	For surgery devices, solutions & lab equipment - Mandatory as per UAE Fertilization Legislation
Staff Areas													
Meeting Room	meet-l-30-d									1	x	30	May share adjacent facilities
Office – Single Person	off-s12-d									1	x	12	Manager
Office – Single Person	off-s9-d									1	x	9	Nurse; Should be located close to Staff Station
Office – Single Person	off-s9-d									1	x	9	Physician
Office – 4 Person Shared	off-4p-d									1	x	20	Quantity as required
Office – Workstation	off-ws-d									1	x	5.5	
Security Room	secr-10-d									1	x	10	Mandatory – May share with Main Entry
Staff Room	srm-15-d similar									1	x	20	
Sub Total												**806**	
Circulation %												**35**	
Area Total												**1088.1**	

Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the Standard Components
- Rooms indicated in the schedule reflect a generic and typical arrangement
- All the areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines
- Exact requirements for room quantities and sizes shall reflect Key Planning Units (KPU) identified in the Clinical Service Plan and the Operational Policies of the Unit
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit

Offices are to be provided according to the number of approved full-time positions within the Unit

8 Further Reading

In addition to Sections referenced in this FPU, i.e. **Part C- Access, Mobility, OH&S**, **Part D - Infection Control** and **Part E - Engineering Services**, readers may find the following helpful:

- CDC (Center for Disease Control) US. Guidelines for Environmental Infection Control in Health-Care Facilities, US, refer to website: http://www.cdc.gov/hicpac/pubs.html
- Clinical and Laboratory Standards Institute (CLSI) (www.clsi.org) "Laboratory Design; Approved Guideline," 2nd edition. GP18-A2. Vol 27, No.7. Wayne, PA:CLSI, 2007
- DHA (Ministry of Health – UAE), Unified Healthcare Professional Qualification Requirements, 2017, website: https://www.haad.ae/HAAD/LinkClick.aspx?fileticket=2K19llpB6jc%3d&tabid=927
- Health Authority Abu Dhabi, Book 7: Fertilisation Legislations refer to website www.haad.ae
- Revised Guidelines for good practice in IVF laboratories; Magli, M.C. et al, Human Reproduction Vol 23, No 6, 1253-1262, 2008
- Revised Guidelines for Good Practice in IVF Laboratories (Eshre) 2015 refer to website: www.eshre.eu/eim
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Hospitals, 2018. Refer to website: www.fgiguidelines.org
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Outpatient Facilities, 2018. Refer to website: www.fgiguidelines.org