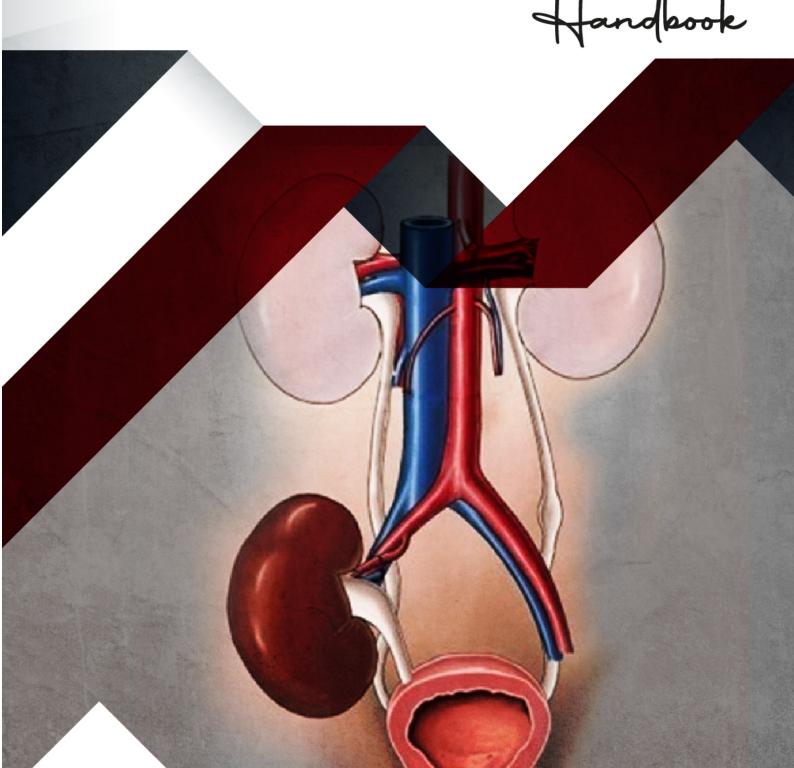


FELLOWSHIP PROGRAMME IN CLINICAL TRANSPLANTATION



FELLOWSHIP PROGRAMME IN CLINICAL TRANSPLANTATION



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Dear All

On behalf of the **World Kidney Academy (WKA)**, we welcome you to the **Fellowship Programme in Clinical Transplantation**.

We have written this **Handbook** to explain how the Fellowship is designed. This Handbook will guide you through the whole programme and help you to understand what we expect from you and highlight how we help you during your study. It provides you with the roadmap for your education with us. The Handbook is not a replacement for any communication with the Fellowship staff but helps you to understand the rules and the regulations followed during your study.

We have invested in appointing a dedicated staff to help you. Therefore, your engagement with the Fellowship staff is essential to get the maximum benefit during your study with us.

Please read it thoroughly before joining the programme and keep referring to it during your journey through the Fellowship.

We wish you the best in your career.

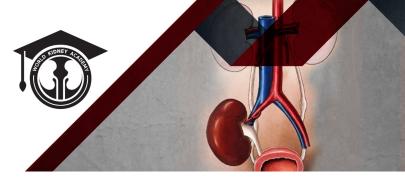
President of the WKA

Foreword by the Programme Director

Welcome to the **Fellowship Programme in Clinical Transplantation**. This fellowship programme, a unique, flagship programme, is offered wholly online. It is structured as six 20-credit modules (Master's level/level 7) that can be taken either as standalone modules or as an award – Postgraduate Certificate/Fellowship in Clinical Transplantation.

We are very pleased you have chosen to start the next stage of your education with us, with a massive investment to improve our resources for all our students and to recruit appropriately qualified national and international clinicians to inform and





deliver our curriculum to ensure that all we deliver is current, evidence-based and research connected.

We aim to give you a valuable and satisfying student experience. To achieve this successfully, our experience is a partnership between us as tutors and students. This wholly online programme will establish your peer support/learning via the online discussion group and journal club. You will learn things from us as well as from each other. Most importantly, you will also discover things for yourself.

We would particularly urge you to keep in touch with the Programme Director, **Professor Ahmed Halawa** (Consultant Transplant Surgeon, Sheffield Teaching
Hospitals, United Kingdom). He is supported by **Professor Dawlat Belal**, Professor
of Internal Medicine and Nephrology Cairo University, Egypt. The clinicians are
supported by the Associate Director: **Professor Ajay Sharma**, Consultant
Transplant Surgeon, Royal Liverpool University Hospitals, UK.

Admission is open for **All International Students** in a **Part-time Capacity**. There are 6 wholly-online-modules for the entire fellowship. Each module is delivered over 16 weeks and will comprise:

- Asynchronous audio-lectures.
- Recorded synchronous tutorials.
- Student-led teaching.
- Reflective practice on the national and international guidelines.
- Real-life clinical scenarios.
- Group discussion of complex cases.
- Critical appraisal of scientific papers.
- Critical appraisal of the available evidence with reflection on the local practice.
- MCOs with answers and explanations.
- Facilitated online discussion boards.





The total number of scheduled learning and teaching hours is 200 hours/module (72 hours of directed student activity and 128 hours of student self-directed learning activity).

The student is expected to spend 16-17 hours studying per topic over the 16 weeks of the module. Additional time is provided to guide the students during the assessment (formal and informal). Our materials will be issued in a cycle every 7 days (please see the timetable provided for each module). Emphasis will be placed upon developing effective clinical reasoning strategies based upon the use of 'best evidence' and critical reflection of practice.

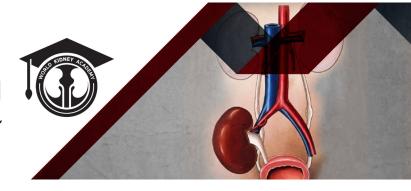
Distinguished students are encouraged to submit their work for presentations at national and international conferences and also publish it in peer-reviewed journals. We also support our students' applications for international grants to support advanced training in clinical transplantation.

Masters Level Study

Masters level study is now referred to in England as level 7 study. At this level, you are required to take 'ownership of your studies, and this requires a highly motivated, autonomous student, particularly given the challenges of maintaining a work/life balance and international study in some cases. Additionally, given this programme is delivered wholly online, you are expected to engage and contribute to the activities in each 7-day cycle. Therefore, excellent skills in time management are important; but rest assured that the fellowship academic, clinical, and professional services staff is here to support you. We will be working collaboratively to ensure that you have the optimum student experience whilst studying online in the fellowship programme.

If you have any questions, concerns, or problems, then PLEASE raise them at an early stage with the Module Leader & the Programme Director. We sincerely hope that you will enjoy your time studying with us and wish you every success.

FELLOWSHIP PROGRAMME IN CLINICAL TRANSPLANTATION



Ahmed Halawa
Programme Director
Consultant Transplant Surgeon, UK.

Information about the World Kidney Academy

The WKA is a non-commercial organisation conceptualised and developed by professionals with proven credentials in education through distance learning. It is delivered through an interactive electronic platform to enable an evidence-based, cost-effective approach to manage patients with kidney disease and those who received organ transplantation. This ambitious endeavour, an asynchronous global ward round, will bridge a massive hiatus in clinical practice by fostering a live interaction between healthcare professionals from different countries. There is a dire need to help, guide, mentor and support our colleagues committed to healthcare systems looking after patients from low- and middle-income backgrounds.

This program emphasises the practical implementation of clinical nephrology, bone health and organ transplantation. WKA is based on equipping clinicians with scientific analysis of evidence in a learning environment that encourages questioning the current practice, consistently fine-tuning clinical skills, and fostering reasoning for the most pragmatic approach. WKA is your institution as your knowledge enriches it just by participation. It enhances self-learning by garnering the support of experienced colleagues around the globe with whom you share your challenges.



Communication with Students

Email

Communications with the students are **only** through the WKA email account created on joining the fellowship programme. It is imperative that you check this daily during term time and regularly during vacation periods.

Other Communication Tools

Other communication supportive tools are employed to maximize communications with the students and facilitate engagement, such as Zoom, Team Meeting, direct telephone calls, Viber and Messenger.

Learning Management System (LMS)

The LMS is a digital learning platform used for delivering fellowship educational materials through an easy-to-use system. It allows interactive discussion and engagement of the students and provides an excellent learning experience. For further information on the LMS visit:

https://en.wikipedia.org/wiki/Learning_management_system#Characteristics

Administration and Technical Support

ICOM Group is the official PCO in charge of the Fellowship Project.

Administration, students' admission, LMS Management and technical support are provided by ICOM. For further information, please visit:

https://icomgroup.org

Students Admission

Admission is opened on 4-month-bases (after each module). Dates and deadlines of the application process will be published in due course. We encourage early application to allow sufficient time to consider the applications. In the event the programme becomes full, we will no longer be able to consider applications.



Cost Information

The fellowship programme is a non-profit and non-commercial programme; however, it incurs fees to cover the expenses of the administration, the technology involved and the educational materials. The registration fees will be announced when the call for applications is opened. Payment is not requested until your application has been checked and meets all requirements for admission.

Patient Anonymity

Patient confidentiality must be maintained at all times, and there should be no reference to specific patients, identification numbers etc., that could potentially lead to the identification of a patient either in any coursework or in the discussion forum. It is your responsibility to ensure this. Any information that a student provides from which a patient might be identified as a serious professional issue and will be treated as such. Despite the program not being subject to local health authority regulation, it will conform to the local health authority guidance on patient confidentiality. Any breach of the statements outlined by the guidance may result in referral to an academic integrity investigation by the programme director, which in turn may result in removal from the module or failure of an assessment etc.

Accreditation

Accredited by the American Association of Continuing Medical Education® for a maximum of 1200.00 hours. Also accredited by European Accreditation Council for Continuing Medical Education (EACCME)® for 120 credits (20 credits per module).

Programme Director

Ahmed Halawa

Consultant Transplant Surgeon, Sheffield Teaching Hospitals, UK.

Associate Programme Directors (alphabetical)

Ajay Sharma

Consultant Transplant Surgeon / Hon. Senior Lecturer Royal Liverpool University Hospital, UK.

Dawlat Belal

Emeritus Professor of Internal Medicine & Nephrology, Cairo University, EGYPT.

Academic Lead

Ala Ali

Assistant Professor of Nephrology, Consultant nephrologist and Transplant Physician Nephrology and Renal Transplantation Centre, The Medical City- Baghdad, Iraq.

Board of Directors of the WKA

The WKA is represented in the fellowship programme by the board of directors.

Scientific Committee (Alphabetical)

Abubaker Hassan

Associate Professor of Nephrology and Transplantation University of Saskatchewan CANADA

Ahmed A. Shokeir

Professor of Urology
Urology & Nephrology Center, Mansoura University
EGYPT

Ahmed Akl

Consultant of Nephrology & Transplantation, DSFH Associate Professor of Nephrology

Fakeeh College of Medical Sciences, Jeddah SAUDI ARABIA

Ahmed Mostafa

Assistant Professor of Pathology and Lab Medicine University of Saskatchewan CANADA

Ahmed Shoker

Professor of Nephrology and Transplantation University of Saskatchewan CANADA

Aimun Ahmed

Consultant Nephrologist / Hon. Senior Lecturer Lancashire Teaching Hospitals NHS Foundation Trust UK

Amr El-Husseini

Professor and Nephrology Medical Director, University of Kentucky USA

Bedeir Ali-El-Dein

Professor of Urology
Urology & Nephrology Center, Mansoura University
EGYPT

Bisher Kawar

Consultant Nephrologist
Former Associate Professor- Balqa Applied University
Former Clinical Director- Sheffield Kidney Institute - UK
JORDAN

Faissal Shaheen

Senior consultant physician and nephrologist

Head of Nephrology (DSFH), Jeddah SAUDI ARABIA

Fedaey Abbas

Consultant Nephrologist

Head of the Nephrology & HDX Unit Military Hospital

Kuwait

Gamal Saadi

Emeritus Professor of Internal Medicine & Nephrology Cairo University

EGYPT

Ghada Ankawi

Assistant professor of internal medicine and nephrology
King Abdulaziz University - Jeddah
SAUDI ARABIA

Hanadi Alhozali

Assistant professor of internal medicine and nephrology King Abdulaziz University - Jeddah SAUDI ARABIA

Hemant Sharma

Consultant Transplant Surgeon / Hon. Senior Lecturer Royal Liverpool University Hospital UK

Ihab Shaheen

UK

Consultant Paediatric Nephrologist, Royal Hospital for Children, Glasgow West of Scotland

Magdy Elsharkawy

Professor of Internal Medicine and Nephrology

Ain Shams University

EGYPT

May Hasaballah

Emeritus Professor of Internal Medicine & Nephrology

Cairo University

EGYPT

Medhat Askar

Clinical Professor, Department of Pathology and Laboratory Medicine,

Texas A&M Health Science Center College of Medicine

USA

Moataz Fatthy

Assistant Professor of Nephrology.

Cairo University

Egypt

Mohamed Eltemamy

Associate Professor of Urology and Transplantation.

Cleveland Clinic

USA

Mohamed Hany Hafez

Emeritus Professor of Internal Medicine & Nephrology

Cairo University

EGYPT

Mohamed Salah El Din Zaki

Professor of Nephrology

Urology and Nephrology Centre - Cairo

Egypt

Mohamed Sobh

Emeritus Professor of Internal Medicine & Nephrology

Mansoura Urology and Nephrology Center - Mansoura Egypt

Mohsen El Kossi

Professor and Consultant Nephrologist

Doncaster Royal Infirmary

UK

Mustafa Al-Mousawi

Consultant Surgeon and Chairman, Organ Transplant Center, Kuwait, Head, Kuwait Organ Procurement, President, Kuwait Transplant Society. Councillor (the Middle East and Africa), The Transplantation Society (TTS). Kuwait

Rabab Al Attas

Consultant pathologist, Immunologist & Immunogenetics King Fahad Specialist Hospital-Dammam KSA

Rashad Barsoum

Emeritus Professor of Internal Medicine & Nephrology Cairo University EGYPT

Roberto Cacciola

Consultant Transplant Surgeon

Visiting Professor/Research Associate

Department of Surgical Sciences - University of Tor Vergata — Rome

ITALY

Saeed M.G Al-GHAMDI

Consultant Nephrologist

King Faisal Specialist Hospital & Research Centre-Jeddah.

SAUDI ARABIA

Safa Al-Mukhtar

Professor of Medicine and Nephrology Hawler Medical University, College of Medicine, Erbil, Kurdistan IRAQ

Sunil Daga

Consultant Nephrologist, Senior Lecturer Leeds Teaching Hospitals, University of Leeds, Leeds UK

Tarek El Diasty

Professor of Radiology
Urology & Nephrology Centre, Mansoura university
EGYPT

Tarek Fayad

Professor of Internal Medicine and Nephrology
Cairo University
EGYPT

Tarek Medhat Abbas

Professor and Consultant Nephrologist Mansoura University EGYPT

Tariq Zayan

Consultant Nephrologists

Head of Nephrology Dept, Sur Hospital

SULTANATE OF OMAN

Veronica Lennon

Transplant Co-Ordinator Sheffield Teaching Hospital UK



Wesam Ismail

Assistant Professor of Pathology University of Beni Swaif EGYPT

Yasir Alfi

Consultant Nephrologist

Program Director, Transplant Nephrology Fellowship

King Faisal Specialist Hospital & Research Centre-Jeddah.

SAUDI ARABIA

Yasser Osman

Professor of Urology and Transplantation
Urology & Nephrology Centre, Mansoura University
EGYPT

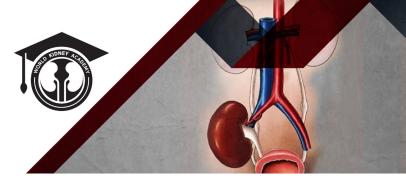
International Guest Speakers

The scientific committee will invite international speakers to have life presentations and discussions with students using Zoom videoconferences.

International Partnership

- African Association of Nephrology (AFRAN)
- African Society of Organ Transplantation (ASOT)
- Egyptian Society of Nephrology and Transplantation (ESNT)
- Iraqi Society of Nephrology and Renal Transplantation (IQSNT)
- Sudanese Society of Nephrology and Transplantation (SSNT)





Programme Structure

Aims and Objectives

The course is the first of its kind to deliver up-to-date knowledge and evidence-based clinical experience in transplantation. This programme is offered wholly online study using an interactive electronic platform, which produces a high-quality interface for learning and teaching through keynote lectures, a multitude of interactive discussion boards and a series of parallel journal clubs. Each module is 20 credits (200 hours of directed and self-directed learning - table 1) at the master's level (LEVEL 7). English language examination is NOT required for those who studied medicine in English; others, need to demonstrate evidence of a good command of English.

Directed (Virtual Classroom) Learning				
The expected number of hours for each student per week	6 hours			
engaged in the virtual classroom in the discussion, dedicated to				
task group work and individual assignment.				
Total number of hours per module	72 hours			
Self-directed (Non-virtual Classroom) Learning				
The expected number of hours for each student per week	11 hours			
reading to support engagement in the discussion board and				
individual assessment.				
Total number of hours per module	128 hours			
Total number of hours for the whole programme (6	1200 hours			
modules)				

Table 1: Breakdown of directed and self-directed learning.



This programme teaches clinical adult renal and paediatric transplantation. The programme is not a substitute for practical training in transplantation, but it enhances the practice and boosts the clinical experience of transplant clinicians by providing reflective learning.

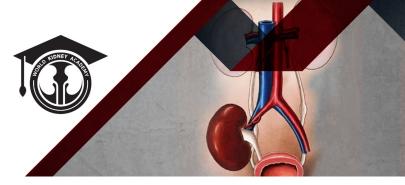
Programme Description, Overview and Philosophy

The programme is delivered by experienced transplant clinicians from various reputable national and international transplant centres to enhance the exposure of the candidates to different clinical experiences and practices. The education is delivered in the form of online lectures, case-based discussions, critical appraisal of scientific papers and problem-solving exercises. Clinical scenarios and real-life practical experience are discussed online (asynchronous) by senior transplant clinicians. The lectures are delivered in an asynchronous approach to overcome the challenges posed by time zone differences and maximize mutual and reciprocal engagement. An optional tele-education is introduced in each module synchronously to enhance the learning experience and encourage the engagement of the students. These synchronous interactive sessions will be recorded and posted to all students.

Teaching and Learning Methods

This programme emphasizes the practical implementation of clinical transplantation and fosters analysis, questioning and reasoning of the current practice, and compares it with the recent best available scientific evidence (table 2).





Teaching and Learning Methods					
1	On-line delivery using pre-recorded, asynchronous keynote lectures, on-line tutorials, videos, podcasts, case studies: supported by facilitated discussion boards, journal club and facilitation of group interaction.				
2	Evidence based learning and practice. Critical appraisal of scientific papers and professional documents.				
3	Critical reflection on practice in the workplace through the on-line platform.				
4	Implement the best available evidence to tailor the treatment within the boundaries of the local resources				
5	Individual (formal and informal) tutorial support to prepare for assessment as required.				
6	Individual tutorial support of underperforming students.				

Table 2: Teaching and Learning Methods.

The candidates will be encouraged to formalize a treatment plan for routine, challenging and complex clinical cases. The platform provides the most ambitiously equipped electronic library (e-library) that facilitates access to critical scientific papers and textbooks covering a wide range of transplantation topics. They are also encouraged to write scientific articles for publication in peer review journals and present abstracts at international conferences. This maximizes their learning experience and improves their employability chances.

This mixed pedagogy is particularly appropriate when students bring knowledge and expertise, which is a valuable resource, to the online classroom. The learning and teaching strategy are designed to take the students through a reflective learning environment in a structured way over 16 weeks, using examples of where underpinning knowledge and understanding can be applied across the theory-clinical interface using a case-based approach. This will be supported by a robust, current evidence base.



Underperforming Students

Underperforming students are identified by the module lead and reported to the programme director. The reason for underperformance is investigated by the programme director and rectified. Individual tutorial support for underperforming students is delivered by the module leads/programme director (Table 2).

Eligibility

- 1. Medical graduates.
- 2. Has worked or currently working in a transplant unit dealing with acute transplantation and/or follow-up (evidence to be provided).
- 3. Those who have the opportunity to work in a transplant unit (should submit evidence for their future placement in a transplant unit).
- 4. Non-medical graduates who are currently dealing with transplant patients (assessed on an individual basis).

Assessment

Students have to submit two summative assignments per module (2000 words or equivalent per assignment). These assignments could be in the form of coursework, reflective essay questions, case scenarios, poster presentations and critical appraisal of scientific papers. The students have the option to submit a draft for review (formative assessment) before the final submission. A regular informal formative assessment during the course is known to drive learning and, thereby, will enrich the learning process with a resultant long-lasting educational outcome. By employing various assessment strategies, the faculty aims to negate each technique's limitations and, thereby, make the assessment process more robust. Senior clinicians supervise the assessment in the relevant fields to ensure achieving the planned learning objectives.

Students should contribute to more than **70%** of the discussion board and journal club to be eligible to take the exam.

Marking

Marking criteria for each assessment will be available in the module's online space. Each assignment is marked by two examiners. A random sample of the marked assignments is ratified by an external examiner assigned by the fellowship managers before submitting the results to the exam board for approval.

Re-sit

One resubmission of any unsatisfactory assignment is allowed generally within one month of the date of the release of the results (after approval by the exam board).

Exit Awards

A postgraduate Certificate in Clinical Transplantation (60 credits) is awarded after completing 3 modules (16 weeks per module). Postgraduate Fellowship in Clinical Transplantation is awarded after the successful completion of the six modules (120 credits). Students have the option to study any of these modules as CPD/CME as standalone modules (table 3). For those who wish to take the module as CPD points, their percentages of contribution will be counted as CPD/CME (percentage of the total CPD/CME awarded per module).

Award	Modules	Duration
CPD/CME	1 or 2 modules in any	4 or 8 months
(Standalone)	order	
Postgraduate	3 modules in any order	12 months
Certificate in Clinical		
Transplantation		

Fellowship in Clinical	All 6 modules	24 months
Transplantation		

Table 3: Exit awards and fellowship.

Extensions

Extensions to coursework submission deadlines are only available on written agreement from the Board of Examiners and after submitting evidence of extenuating circumstances.

Extenuating Circumstances

Students are allowed to delay their assignment submission and apply for an extension in case of unforeseen circumstances affecting their performance before or during the assessment process. Students must submit evidence to support their claim of their right for extension and consider their eligibility for extenuating circumstances to the Board of Examiners.

Academic Integrity Policy and Academic Writing

The Fellowship Programme is committed to delivering a high standard of education in clinical transplantation and protects the value of its awards. Therefore, all students are taught a compulsory short module by experienced members of the scientific committee on the principles of evidence-based medicine, presentation skills, academic integrity, plagiarism, the principles of academic writing and how academic misconduct can affect the integrity of science. The tutorial is supported by practical exercises to ensure the understanding of these important academic principles.

The spectrum of Offences and Penalties Applied

Students must produce their work, understand the principles of proper referencing, respect the copyrights, and are expected to practice intellectual honesty.

The Fellowship programme employs a plagiarism software checker for any submitted work. Any academic misconduct will be taken seriously and may lead to a penalty which could be up to termination of the study. The following code of practice on assessment (figure 1) will be explained to the students at the beginning of their study:

Category A

- Minor errors (missing quotation marks, minor mistakes in referencing).
- Mark penalty (up to 10% of maximum mark), as laid out in the marking scheme, with detailed feedback on how to avoid errors in the future.

Category B

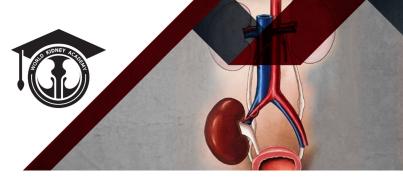
- Poor academic practice (poor paraphrasing and inadequate referencing).
- The assignment mark is capped at a minimum pass grade for the assignment (50%).
- Advice is given to avoid any future poor academic practice.

Category C

- Plagiarism, copying, collusion or dishonest use of data.
- Committing category B twice.
- 0% for the assignment and have to resubmit it after the appropriate amendments.
- Written warning.
- Advice is given to avoid any future offences.

Category D





- A second or subsequent category C offence following the first written warning, thereby an intent to deceive.
- The student fails the whole module.
- If a student accumulates sufficient modules with 0% due to multiple category
 D offences, then the Board of Examiners could exercise the right to
 terminate studies due to a lack of satisfactory progress.

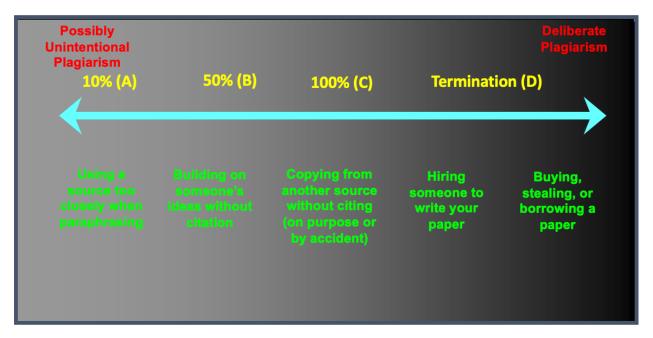


Figure 1: Spectrum of offences implemented in the Fellowship programme.

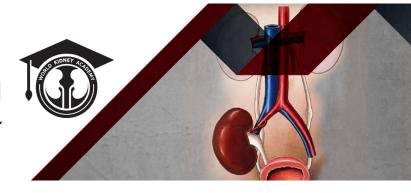
Our academic integrity policy is adapted from:

https://www.liverpool.ac.uk/media/livacuk/tqsd/code-of-practice-on-assessment/appendix L cop assess.pdf

Board of Examiners

The Board of Examiners is committed to managing and overseeing the education process and ensuring the delivery of intended learning objectives. The panel consists of the following members of the staff:

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- Academic Lead (chairperson).
- Programme director.
- Associate programme director.
- Module leads.

It has the following responsibilities:

- Ratifies the exam results.
- Ratifies the extenuating circumstances.
- Ratifies the penalty for those students who committed plagiarism and academic dishonesty.
- Making recommendations for underperforming students and suggesting the level of support they require.

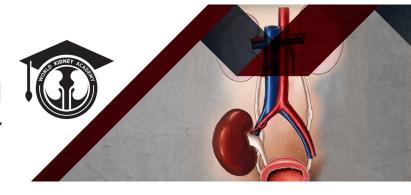
Board of Directors

The Board of Directors is committed to managing and overseeing all aspects of the programme including visions, missions, values and promotion of the programme. The board sets strategy and structure, and shares in decision-making and future directions. its overall purpose is to identify any gaps or deficiencies and suggest the necessary changes. The board meets 3 times a year and when necessary.

The board consists of the following professors (alphabetical):

- 1. A representative of the ICOM group
- 2. Ahmed Halawa (UK)
- 3. Ahmed Shokeir (Egypt)
- 4. Ala Ali (Iraq)
- 5. Ali Alsaedi (Iraq)
- 6. Bassam Said (Syria)
- 7. Dawlat Belal (Egypt)
- 8. Faisal Shaheen (Saudi Arabia)

FELLOWSHIP PROGRAMME IN CLINICAL TRANSPLANTATION



- 9. Hisham Hasan (Sudan)
- 10. Magdy Elsharkawy (Egypt)
- 11. May Hasabellah (Egypt)
- 12. Mohamed Hany Hafez (Egypt)
- 13. Mustafa Al-Mousawi (Kuwait)
- 14. Safa Al-Mukhtar (Iraq)
- 15. Tarek Elbaz (Egypt)

Syllabus

I. <u>Introduction to Clinical Transplant Immunology</u>

Objectives: The student learns and practises the principles of transplant immunology, introduction to tissue typing and crossmatching, which are essential to underpin the advanced clinical understanding for dealing with immunosuppression and the immunology of rejection. Ethical issues are complex and pose dilemmas at every stage in transplantation sciences and, therefore, medical ethics as a theme will run through all the modules.

- 1. History of Transplantation (Rashad Barsoum Egypt)
- 2. Dialysis vs Transplantation (1 lecture) (Faissal Shahen KSA)
 - a. Patient Survival
 - b. Quality of life
 - c. Cost of treatment (the American, the British and The Saudi Models)
- 3. Basics of Transplant Immunology (2 lectures) (Rabab Al Attas KSA)
 - a. Major histocompatibility complex
 - i. Structure and function of HLA
 - ii. Linkage disequilibrium
 - iii. HLA match and mismatch
 - iv. Definition of haplotype and phenotype

- v. Identical and fraternal twins
- b. Minor histocompatibility complex
- c. Pathway of alloantigen presentation
 - i. Direct antigen recognition
 - ii. Indirect antigen recognition
- d. Role of graft injury in also response
- a. Innate versus adaptive immunity
- b. Tolerance
- **4. Histocompatibility and Immunogenetics (3 lectures)** (Ahmed Mostafa Canada)
 - a. HLA typing
 - i. Microcytotoxicity test
 - ii. DNA typing
 - b. Identification of HLA-specific antibodies
 - i. Complement-dependent cytotoxicity (CDC)
 - ii. Augmented cytotoxicity
 - iii. Flow Cytometry (FXCM)
 - iv. Solid-phase assay
 - v. Panel reactive antibodies (PRA)
 - vi. Calculated reaction frequency (CRF)
 - vii. Unacceptable antigens
 - c. Crossmatching
 - i. Flow cytometry crossmatch (FXCM)
 - ii. Complement-dependent cytotoxicity (CDC)
 - iii. Autoantibodies and positive crossmatch

- 5. Immunosuppression and Protocols (3 lectures)
 - a. Induction therapy (Magdy El-Sharkawy Egypt)
 - Anti-CD 25 monoclonal antibodies
 - Thymoglobulin
 - OKT3
 - Alemtuzumab
 - Intravenous immunoglobulin
 - Rituximab
 - b. Novel Immunosuppression (Tarek Fayad Egypt)
 - Belatacept
 - Bortezomib
 - Eculizumab
 - Other novel immunosuppressive drugs
 - c. Immunosuppression protocols (Ala Ali Iraq)
- 6. Zoom Life Case Discussion (2 sessions/module) (TBA)
- 7. International Guest Speaker (2 sessions/module) (TBA)

II. Advanced Clinical Transplant Immunology

Objectives: The student learns and practises immunology of graft rejection, management of immunologically high-risk patients, a chronic deterioration of the kidney function, pregnancy and renal transplantation and transplantation

in the elderly. Ethical issues are complex and pose dilemmas at every stage in transplantation sciences, and, therefore, medical ethics as a theme will run through all the modules.

- 1. Applied Transplant Immunology; Case-based Discussion (Ahmed Halawa UK)
- 2. Allograft Rejection (3 lectures) (Tarek Medhat Egypt)
 - Acute cell-mediated rejection
 - i- Acute cellular rejection
 - ii- Acute vascular rejection
 - Acute antibody-mediated rejection
 - Chronic antibody-mediated rejection
- 3. Immunologically High-risk Patients (3 lectures)
- Highly sensitised patients (Ala Ali Iraq)
- ABO-incompatible renal transplantation (Abubaker Hassan Canada)
- Renal transplantation across positive crossmatch (Ala Ali Iraq)
- 4. Pregnancy and Transplantation (1 lecture) (Ghada Ankawi KSA)
- **5. Chronic Deterioration of Kidney Function (3 lectures)**
 - Chronic allograft Injury (Ahmed Shoker Canada)
 - Recurrence and de novo nephritis (Hanadi Alhozali KSA)
- 6. Diabetes and Renal Transplantation (2 lectures) (Tarek Elbaz Egypt)
- 7. Zoom Life Case Discussion (2 sessions/module) (TBA)



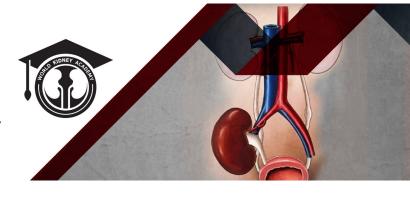
8. International Guest Speaker (2 sessions/module) (TBA)

III. Renal Transplantation Practice

Objectives: This module teaches and allows students to practise detailed recipient work up from different perspectives (medical, immunological and surgical). Detailed donor (living and deceased) workup and organ retrieval processes are discussed with great emphasis on the donor selection criteria and understanding the new approaches in organ allocation (paired and altruistic donation). Organ allocation and preservation are addressed in this module with an analysis of current evidence. Transplantation of marginal kidneys is explained in detail, addressing the factors associated with adverse graft outcomes. The transplant operation, with its postoperative complications, is demonstrated. The candidates are taught the different approaches to manage these complications and how to differentiate between the medical and surgical complications in the early and late postoperative period.

1. Recipient Work-up (2 lectures) (Ahmed Halawa- UK)

- Patient selection criteria
- Cardiovascular system
- Respiratory system
- Cerebrovascular disease
- Peripheral vascular disease
- Malignancy
- Infection
- Coagulopathy



- Gastrointestinal disease
- Urological evaluation
- Obesity
- Diabetes Mellitus
- Management of patients on the waiting list
- Non-adherence
- 2. Living Donation (3 lectures) (Faisal Shahen KSA, Roberto Cacciola -

Italy, Ala Ali - Iraq)

- Living Donation; An Overview (Faisal Shahen KSA)
- Living donor workup (Roberto Cacciola Italy)
 - i- Donor selection criteria
 - ii- Psychological evaluation
 - iii- Cardiovascular assessment
 - iv- Hypertension
 - v- Diabetes Mellitus
 - vi- Obesity
 - vii- Laboratory investigation
 - viii- Assessment of renal function
 - ix- Imaging
- Donor nephrectomy (open and laparoscopic) Short and Long-term post-donation outcome (Bedeir Ali-El-Dein - Egypt)

- Paired (chain) donation (Ala Ali Iraq)
- 3. Deceased Donors (1 lecture) (Ahmed Halawa UK)
 - Donation after brain stem death
 - Donation after cardiac death

4. Expanded Criteria Donor and Expansion of the Donor Pool (1 lecture)

(Ahmed Halawa - UK)

- Expanded criteria donors
- Kidney preservation
 - i- Principles of cold storage preservation
 - ii- Perfusion fluids
 - iii- Hypothermic and normothermic machine perfusion
- Deceased donor kidney allocation

5. Management of Acute Transplant Dysfunction (2 lectures) (Mohsen El

Kossi – UK and Bedeir Ali-El-Dein - Egypt)

- Medical Causes
- Surgical Causes

6. Peri-operative Fluid Management in Renal Transplantation (1

lecture) (Ahmed Halawa - UK)

- Principles of fluid therapy
- Preoperative fluid status
- Intraoperative fluid management and monitoring
- Postoperative fluid management

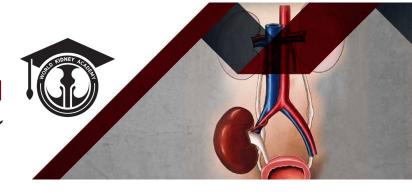
- Urinary catheter and ureteric stent
- 7. Zoom Life Case Discussion (2 sessions/module) (TBA)
- 8. International Guest Speaker (2 sessions/module) (TBA)

IV. Post-transplant Long-term Complications

Objectives: This module deals with the common bacterial and viral infection complications affecting renal transplant recipients, the various treatment options and the long-term outcome. Also, tropical infection is addressed in this module. Post-transplant malignancy is discussed in detail, the surveillance, and the various treatment modalities supported by the best available evidence. At the end of the module, the students will be able to diagnose complex clinical cases and formulate a treatment plan.

- 1. Post-transplant Malignancy and Surveillance (2 lectures) (Tarek Fayad Egypt)
 - Epidemiology
 - Skin cancer
 - PTLD
 - Other malignancies
- 2. Post-transplant Infection Complications (3 lectures)
 - Viral infection
 - i. CMV (Ahmed Halawa UK)

- ii. CMV-specific Cell-mediated Immune Response (Ayman Refaie Egypt)
- iii. BK (Ahmed Halawa UK)
- iv. COVID-19 and Upper Respiratory Tract Infection (Ahmed Akl KSA)
 - A. COVID-19/Vaccine and transplantation
 - B. Upper respiratory tract infection and transplantation
- PCP infection (Gamal Saadi)
- 3. Kidney Transplantation in Patients with Viral Hepatitis (2 lectures) (May Hassaballah Egypt)
 - HBV
 - HEV
 - HCV
- 4. Kidney Transplantation and HIV (1 lecture) (Ahmed Halawa UK)
 - HIV-associated nephritis (HIVAN)
 - HIV positive recipients
- 5. Tropical Transplantation (2 lectures)
 - Mycobacterium (TB and atypical mycobacterium) (Ahmed Shoker -Canada)
 - Parasitic infestation (Fedaey Abbas Kuwait)
 - i. Malaria
 - ii. Strongyloidiasis

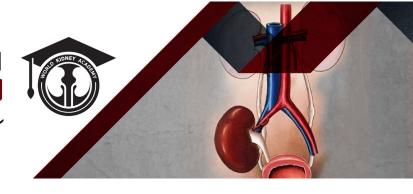


- iii. Leishmaniasis
- IV. Trypanosoma
- 6. Post-Transplant Diarrhoea (1 lecture) (Saeed Al-Ghamdi KSA)
- 7. Post-Transplant Urinary Tract Infection (1 lecture) (Mohamed Salah El Din Zaki Egypt)
- 8. Zoom Life Case Discussion (2 sessions/module) (TBA)
- 9. International Guest Speaker (2 sessions/module) (TBA)

V. <u>Advanced Clinical Renal Transplantation Practice</u>

Objectives: In this module, the histology of the various pathological conditions affecting kidney transplantation is addressed briefly about the clinical presentation and the different diagnostic modalities. A brief introduction to transplant radiology is presented in this module, emphasising the choice of the best diagnostic modality, and the sensitivity and specificity of each diagnostic approach. An introduction to paediatric transplantation, highlighting the fundamental differences between paediatric and adult transplantation, is presented in this module. Finally, the ethics of transplantation is discussed concerning the recent national and international guidelines. At the end of the module, the students will be able to diagnose complex clinical cases and formulate a treatment plan.

- Paediatric Transplantation (4 lectures) (Mohan Shenoy UK and Yasser Osman - Egypt)
- 2. Pathology of Renal Transplantation and Biopsy (3 lectures) (Wesam Ismail Egypt)



- Acute tubular necrosis
- Acute cellular rejection
- Acute antibody-mediated rejection
- Banff classification
- Differential diagnosis of acute rejection
- CNI toxicity
- Chronic allograft nephropathy and chronic antibody-mediated rejection
- Recurrence of the original disease
- CMV and BKV infection
- Transplant kidney biopsy
- 2. Obesity and Transplantation (1 lecture) (Magdy El-Sharkawy Egypt)
- 3. Transplantation in Elderly (1 lecture) (Tariq Zayan Oman)
- 4. Imaging in Kidney Transplantation (2 lectures) (Tarek El Diasty Egypt)
 - Nuclear Medicine Imaging and estimation of the GFR
 - Post-transplant follow-up
 - i. Acute tubular necrosis
 - ii. Acute rejection
 - iii. Urological complications (urine leak and obstruction)
 - iv. Lymphocele
 - v. Vascular complications (perinephric haematoma, renal artery stenosis, vascular thrombosis, anastomotic aneurysm and arterio-venous fistula).
- **5. Ethics of Transplantation (2 lectures)** (Geoffrey Wong Australia)
 - Buying a kidney

- Altruistic donation
- 6. Zoom Life Case Discussion (2 sessions/module) (TBA)
- 7. International Guest Speaker (2 sessions/module) (TBA)

VI. <u>Complementary Clinical Practice in Transplantation</u>

Objectives: This module addresses plasmapheresis in renal transplantation. Finding the right balance between under and overimmunosuppression or rejection versus immunosuppression toxicity remains one of the transplant's holy grails. Precision medicine is practised in this module with an emphasis on transplantation medicine.

CKD-MBD, emphasizing renal hyperthyroidism, haematological complications, and the management of failed transplantation, are discussed with an analysis of the current practice against the best available evidence. Finally, the ethical dilemma in deceased donor transplantation is presented as real-life scenarios.

- 1. Plasma Exchange in Renal Transplantation (May Hassaballa Egypt)
- Surgical and Medical Aspects of CKD-BMD Post-Transplantation
 (2 lectures) (Amr El-Husseini USA)
 - CKD-Bone Mineral Disease post-transplantation
 - Primary HPT in renal/transplant patients
 - Secondary and Tertiary HPT
 - Post-Transplant Low Turnover Bone Disease
- Post-Transplant Blood Picture (1 lecture) (Magdy El-Sharkawy -Egypt)
 - Anaemia and erythrocytosis





- Cytopenia
- Haemolytic uraemic syndrome
- Myeloproliferative disorders
- **4. Management of Failing Kidney Transplant (1 lecture)** (Safa Al Mukhtar Iraq)
- **5. Post-Transplant Electrolyte and Acid-base Disturbance** (Yasir Alfi KSA)
- 6. Review of Histocompatibility and Crossmatch (Prof Ahmed Mostafa Canada)
- 7. Two Cases of Kidney Transplantation: Challenges and Solutions
 (Prof Ahmed Mostafa Canada)
- **8. Brain Death Test** (Prof Ramez Kirollos UK)
- Management of Patients on the Waiting List (Prof Ahmed Halawa UK)
- 10. Ethics of Deceased Donor Transplantation (Veronica Lennon UK)
- 11. Zoom Life Case Discussion (2 sessions/module) (TBA)
- 12. International Guest Speaker (2 sessions/module) (TBA)

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