

MEDI09011 Advanced Practice in Transfusion and Transplantation Science

Full Title	Advanced Practice in Transfusion and Transplantation Science		
Status	Uploaded to Banner	Start Term	2021
NFQ Level	09	ECTS Credits	10
Module Code	MEDI09011	Duration	Stage - (26 Weeks)
Grading Mode	Numeric	Failed Element	No
Department	Analytical, Bio & Med Sci		
Module Author	Eleanor Rainsford		
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Module Description

This module will provide the learner with a critical understanding of the principles and practice of transfusion and transplantation science in the context of the regulatory environment. Learners will evaluate the role of advanced techniques in the resolution of complex immunohaematological problems as well as the contribution of emerging technologies, including tissue engineering, to patient care.

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Critically discuss the immunology of blood cells in the context of blood transfusion practice.
2. Apply evidence-based problem-solving skills to evaluate and resolve practical problems that arise in transfusion practice, taking into account recent advances in transfusion science.
3. Demonstrate a critical understanding of blood component therapy and patient blood management in a variety of clinical settings.
4. Critically assess the role of the national blood transfusion service.
5. Evaluate and discuss transfusion strategies in the context of transplantation.
6. Demonstrate an awareness of the research interface and developing technologies in transfusion and transplantation practice.
7. Apply a critical understanding of haemovigilance and regulatory requirements to assess case-based scenarios in transfusion practice.

Indicative Syllabus

Haematopoiesis and haemostasis, platelets and coagulation, haematological diseases such as NAIT, ITP, SCD, HDFN, AIHA

Immunology of blood cells, auto/allo-immunisation

Blood groups, rare blood groups and complex blood group serology, titrations, elutions, adsorptions, phenotyping, compatibility testing, molecular methods/genotyping, quality systems

Clinical considerations in transfusion practice, patient blood management, special circumstances (massive transfusion, emergency transfusion)

National Blood Transfusion Service, Donor recruitment, component processing, pathogen inactivation, infectious diseases testing, quality systems

Current trends in blood banking, donation and component therapy

Stem cell and solid organ transplantation

Advances in cellular therapies and tissue engineering

Regulation, haemovigilance, Errors / Incident reporting to NHO / best practice

Teaching and Learning Strategy

This module will be delivered online with a mixture of synchronous and asynchronous lectures and tutorials with contributions from guest lecturers. The teaching curriculum uses applied methods such as case studies to develop problem-based learning. Peer reviews, on-line forum critical reflections and on-line learning technologies will be used to enhance the learning experience. Learners are expected to engage in active and independent learning. The interactive VLE forum (Moodle) will be used to provide students with the opportunity for peer collaboration, group discussion and communication with the module team.

Assessment Strategy

Assessment consists of continuous assessment (CA) throughout the module. CA will comprise ongoing topic-specific assessments (30%), case study assessments (30%) and a research-led written assignment (40%). This combination of summative assessments will encourage independent learning and problem-based learning skills as well as skills in literature review and analysis. Self and peer reviews will be employed as formative tools to support learning. The assessment strategy for this module may include shared assessments with other modules. The modules that are co-assessed may vary from year to year but will be designed to reduce the assessment burden on the student while ensuring that learning outcomes are achieved across the programme.

Repeat Assessment Strategies

In accordance with GMIT Code of Practice No.3 for 100% continuous assessment modules. The repeat assessment type will be linked to the achievement of particular learning outcomes and will be appropriate to allow the demonstration of the achievement of these outcomes.

Indicative Coursework and Continuous Assessment:		100 %		
Form	Title	Percent	Week (Indicative)	Learning Outcomes
Assessment	Ongoing CA	30 %	OnGoing	1,3,5,6
Assessment	Case Study Assessment	30 %	OnGoing	3,5,6
Assignment	Literature Assignment	40 %	End of Term	1,5,6

Part Time Delivery Mode Average Weekly Workload:			2.50 Hours		
Type	Description	Location	Hours	Frequency	Weekly Avg
Lecture	Online lecture	Online	2	Weekly	2.00
Tutorial	On-line tutorial	Online	1	Fortnightly	0.50

Required Reading Book List

Klein, G., Anstee, J., (2014). *Mollison's Blood Transfusion in Clinical Medicine*. John Wiley & Sons.
ISBN 9781405199407 ISBN-13 1405199407

Maitta, W., (2019). *Immunologic Concepts in Transfusion Medicine - E-Book*. Elsevier Health Sciences.
ISBN 9780323675109 ISBN-13 0323675107

Simon, L., McCullough, J., Snyder, L., Solheim, G., Strauss, G., (2016). *Rossi's Principles of Transfusion Medicine*. John Wiley & Sons.
ISBN 9781119013013 ISBN-13 1119013011

McCullough, J., (2011). *Transfusion Medicine*. John Wiley & Sons.
ISBN 9781444398724 ISBN-13 1444398725

Shaz, H., Hillyer, D., Roshal, M., Abrams, S., (2013). *Transfusion Medicine and Hemostasis*. Newnes.
ISBN 9780123977885 ISBN-13 0123977886

Forman, J., Negrin, S., Antin, H., Appelbaum, R., (2015). *Thomas' Hematopoietic Cell Transplantation*. John Wiley & Sons.
ISBN 9781118416129 ISBN-13 1118416120

Daniels, G., (2013). *Human Blood Groups*. John Wiley & Sons.
ISBN 9781118493540 ISBN-13 1118493540

Journal Resources

- Transfusion
- Vox Sanguinis
- Transfusion Medicine Reviews
- Bone Marrow Transplantation

Online Resources

- <https://b-s-h.org.uk/>
- <https://education.isbtweb.org/>
- <https://www.traqprogram.ca/>
- <https://learn.transfusion.com.au/>
- <https://www.giveblood.ie/>

Programme Membership

GA_SCMLG_V09 202100 Master of Science in Medical Science
GA_SCMLG_N09 202100 Certificate in Medical Science