MEDS20019 *Advanced Vascular Ultrasound*

Term 2 - 2021

Profile information current as at 12/10/2024 02:29 pm

All details in this unit profile for MEDS20019 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student).The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

Vascular ultrasound is a common part of clinical practice and with the ageing of the population the incidence of peripheral, abdominal and extra cranial vascular disease is on the rise. In this unit, you will study advanced practice in vascular ultrasound, both arterial and venous. You will acquire knowledge of vascular anatomy, pathophysiology and flow haemodynamics. The application and measurements used in the non-invasive interrogation of peripheral, abdominal and extra cranial vasculature will be explained. You will appreciate the role of ultrasound, and other imaging modalities, in the clinical assessment, diagnosis and management of a patient with vascular disease, including professional, legal and ethical considerations. The classic signs, symptoms, aetiology, prevalence of major peripheral, abdominal and extra cranial vascular disease will be discussed. Case studies will include new developments in vascular ultrasound imaging.

Details

Career Level: *Postgraduate*
Unit Level: *Level 9*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

There are no requisites for this unit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2021

- Online

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Portfolio**
Weighting: 50%
2. **Online Test**
Weighting: 50%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Have Your Say

Feedback

Students really enjoyed the lectures provided by specialist clinical vascular sonographers as they felt they had a better 'real world' grasp and understanding of what is required in the every day clinical practice.

Recommendation

Continue to include lectures from specialist vascular sonographers who can provide the latest updates on clinical sonographic protocols, so that these can be incorporated by students in their own clinical practice.

Feedback from Have Your Say

Feedback

Students commented that the UC was always available with prompt and well informed feedback.

Recommendation

Continue to provide timely feedback to student queries and concerns.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Discuss the classic signs, symptoms, aetiology, and prevalence of major peripheral, abdominal and extra cranial vascular disease
2. Analyse sonographic anatomy and haemodynamic appearances of normal and pathological features of the peripheral, abdominal and extra cranial vasculature in order to interpret and communicate the sonographic findings
3. Detect vascular pathology through analysis and interpretation of ultrasound images obtained from clinical case studies of common and rare vascular conditions
4. Evaluate the role of ultrasound and other imaging modalities in the clinical assessment, diagnosis and management of vascular disease, including professional, legal and ethical considerations.

The Masters course does not lead to entry into the sonography profession but is rather studied by qualified practitioners to support advanced practice. Therefore it does not require external accreditation. The Master of Medical Ultrasound qualifies as Continuing Professional Development (CPD) activity (activity code 10B - Australian Sonographers Accreditation Registry (ASAR)). Thus unit alone does not lead to award of a qualification in specialist vascular ultrasound.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level | • Introductory Level | • Intermediate Level | • Graduate Level | ∘ Professional Level | ∘ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Portfolio - 50%	•	•		•
2 - Online Test - 50%	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Knowledge	∘	∘	∘	
2 - Communication	∘	∘	∘	∘
3 - Cognitive, technical and creative skills		∘	∘	
4 - Research				∘
5 - Self-management				∘
6 - Ethical and Professional Responsibility	∘	∘	∘	∘
7 - Leadership				
8 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Portfolio - 50%	∘	∘	∘	∘	∘	∘		
2 - Online Test - 50%	∘	∘	∘			∘		

Textbooks and Resources

Textbooks

MEDS20019

Prescribed

CLINICAL DOPPLER ULTRASOUND
THIRD EDITION (2014)
Authors: MYRON A POZNIAK and PAUL L. ALLAN
CHURCHILL LIVINGSTONE ELSEVIER
LONDON , UK
ISBN: 978-0-7020-5015-2
Binding: Hardcover

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: Vancouver
For further information, see the Assessment Tasks.

Teaching Contacts

Afrooz Najafzadeh Abriz Unit Coordinator
a.najafzadehabriz@cqu.edu.au

Schedule

Week 1- Revision of Doppler physics and haemodynamic principles - 12 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
Revision of Doppler physics and haemodynamic principles	Clinical Doppler Ultrasound, Pozniak and Allan: Chapters 1 and 2: pp 1-38 Vascular Ultrasound, How, Why and When, Thrush and Hartshorn: Chapters 3, 4, 5, 6 and 7: pp 23-85 Recorded Lectures	

Week 2- The abdominal aorta and branches - 19 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic
The abdominal aorta and branches	Pozniak and Allan: Chapter 6: pp 122-134, Chapter 9: pp 193-213 Thrush and Hartshorn: Chapter 12 pp 175-191 Recorded Lectures and reading materials posted on Moodle. E-reading list.	Zoom tutorial, Monday evening, time TBC.

Week 3- Peripheral arteries lower limb - 26 Jul 2021

Module/Topic	Chapter	Events and Submissions/Topic

Peripheral arteries, lower limb	Pozniak and Allan: Chapter 4 pp 71-93 Thrush and Hartshorn: Chapter 9 pp 117-141 Recorded Lectures and reading materials posted on Moodle. E-reading list.	

Week 4- Peripheral arteries upper limb - 02 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Peripheral arteries, upper limb	Pozniak and Allan: Chapter 4 pp 77-82 Thrush and Hartshorn: Chapter 10 pp 143-154 Recorded Lectures and reading materials posted on Moodle. E-reading list.	Zoom tutorial, Monday evening, time TBC.

Week 5- Peripheral veins lower limb - 09 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Peripheral veins, lower limb	Pozniak and Allan: Chapter 5 pp 94-121 Thrush and Hartshorn: Chapter 13 pp 193-232, Chapter 14 pp 233-249 Recorded Lectures and reading materials posted on Moodle. E-reading list.	

Vacation Week - 16 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Break Week		

Week 6- Peripheral veins upper limb - 23 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Peripheral veins, upper limb	Pozniak and Allan: Chapter 5 pp 102-103 Thrush and Hartshorn: Chapter 14 pp 250-253 Recorded Lectures and reading materials posted on Moodle. E-reading list.	Zoom tutorial, Monday evening, time TBC.

Week 7- Carotid and Vertebral arteries - 30 Aug 2021

Module/Topic	Chapter	Events and Submissions/Topic
Carotid and vertebral arteries	Pozniak and Allan: Chapter 3 pp 39-70 Thrush and Hartshorn: Chapter 8 pp 87-116 Recorded Lectures and reading materials posted on Moodle. E-reading list.	

Week 8- Mixed topics: Renal artery and Penile Doppler ultrasound - 06 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Mixed Topics: Renal artery Doppler Penile Doppler Ultrasound	Pozniak and Allan: Chapter 9 and Chapter 12 pp 261-272 Thrush and Hartshorn: Chapter 12 pp 188-199 Recorded Lectures and reading materials posted on Moodle. E-reading list.	Zoom tutorial, Monday evening, time TBC.

Week 9- Mixed topics: Haemodynamic AVF access and ovarian veins duplex assessment - 13 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic

Mixed Topics: Pre and post AVF duplex scan Ovarian veins duplex assessments	Pozniak and Allan: Chapter 7 Thrush and Hartshorn: Chapter 16 pp 284-297 Recorded Lectures and reading materials posted on Moodle. E-reading list.	**Portfolio** Due: Week 9 Friday (17 Sept 2021) 2:00 pm AEST

Week 10- Contemporary vascular imaging - 20 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Contemporary Vascular Imaging	Latest research articles and links to latest websites available from the e-reading list.	Zoom tutorial, Monday evening, time TBC.

Week 11- Revision and online test - 27 Sep 2021

Module/Topic	Chapter	Events and Submissions/Topic
Revision week for the online test		Pre-online test Zoom tutorial. Monday evening, time TBC.

Week 12- General disscussion and Q&A - 04 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
Online test.		**Online test** Due: Week 12 Friday (8 Oct 2021) 7:00 pm AEST

Review/Exam Week - 11 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
No exams are scheduled for this unit.		

Exam Week - 18 Oct 2021

Module/Topic	Chapter	Events and Submissions/Topic
No exams are scheduled for this unit.		

Term Specific Information

The unit coordinator for this unit is Dr Afrooz Najafzadeh Abriz.
Afrooz is based in the Perth campus. The best way to contact Afrooz is by e-mail: a.najafzadehabriz@cqu.edu.au.
There will be fortnightly tutorials for this unit facilitated by Zoom. Due to the interactive nature of these tutorials, you are encouraged to attend these live to gain the desired benefit from the resource. Recording will be available to revisit for study purposes.
It is important to regularly check your student email inbox, as important information about the unit is regularly communicated via email.

Assessment Tasks

1 Portfolio

Assessment Type
Portfolio

Task Description
As a sonographer, a comprehensive knowledge of duplex imaging techniques and recognition of ultrasound appearances in the presence of a vascular disease are imperative. Knowledge of the pathophysiology of vascular disease together with the ability to recognise haemodynamic changes in venous and arterial flow equips sonographers with the skills required to interpret the findings and impart the correct information to the referring clinician.
You are required to submit a portfolio of two sonographic vascular case reports, one with and one without a vascular pathology. The sonographic vascular examinations included in the case reports are expected to be completed by you. Failure to use own cases for this assessment will result in an instant fail.
Your portfolio will include an introduction to describe the two case reports and why you have presented these, including the importance of the role of vascular ultrasound.
A critical review of relevant literature related to the sonographic studies and pathology discussed is required.

Each case report will include a discussion of:

- Brief history and discussion of the clinical question.
- Imaging and non-imaging investigations undertaken
- Pre-test diagnosis
- Ultrasound examination conducted including technique
- Sonographic findings
- Comparison of sonographic findings to any other diagnostic tests performed
- Pathology demonstrated or excluded
- Differential diagnosis
- Impact of imaging findings on management of patient
- Post-intervention ultrasound findings if relevant

The portfolio will also include a discussion to compare the normal and abnormal sonographic findings provided in each case presented.
Ensure to include a conclusion to highlight key learning points, any new findings in literature that could be communicated to other sonographers regarding these cases, and any suggestions for future research to be conducted that may improve sonographic diagnosis of the vascular conditions discussed.
The word count for the portfolio is 2000 words +/- 10% (excluding the title, headings, tables, diagrams, figure legends and the references).
Relevant anonymised sonographic images must be included and referred to within the document.

Assessment Due Date
Week 9 Friday (17 Sept 2021) 2:00 pm AEST

Late submissions (without prior approval of extension) will be subject to deduction of 5% overall marks per 24 hours delay.

Return Date to Students
Week 10 Friday (24 Sept 2021)

Students' marks together with marking rubrics containing feedback will be uploaded onto the unit Moodle site.

Weighting
50%

Minimum mark or grade
You must achieve a minimum grade of 50% of the overall marks associated for this assessment to pass this unit.

Assessment Criteria
The portfolio must be written in a coherent and cohesive manner with a good flow of ideas which is engaging to the reader.
The rationale behind the imaging request should be clearly discussed and linked to vascular sonographic findings.
Logical evidence-based discussion with sufficient in-text citations is required.
The significance of the sonographic examinations undertaken must be explained.
Adherence to academic writing conventions is required.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
The portfolio to be submitted as one file in Word format. A cover sheet is required containing student's name and number, the title of the assessment and the unit name.

assessmentOutcome

- Discuss the classic signs, symptoms, aetiology, and prevalence of major peripheral, abdominal and extra cranial vascular disease
- Analyse sonographic anatomy and haemodynamic appearances of normal and pathological features of the peripheral, abdominal and extra cranial vasculature in order to interpret and communicate the sonographic findings
- Evaluate the role of ultrasound and other imaging modalities in the clinical assessment, diagnosis and management of vascular disease, including professional, legal and ethical considerations.

assessmentGradAttribute

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

2 Online test

Assessment Type
Online Test

Task Description
Every health professional needs to possess a body of knowledge that is relevant to their scope of practice whereby the fundamentals are required to be understood which you will build upon clinically. To demonstrate your understanding and knowledge of this unit you are required to complete an online test.
You will complete an online test to assess your understanding of the concepts delivered in this unit. The test can be accessed through the assessment tab on the unit Moodle site. It will be open for one week during week 12.
Students will need to provide typed responses to 10 online questions within the 1.5 hour time period. Ultrasound image viewing questions will be included and you are required to be familiar with normal and pathological sonographic appearances of the vascular systems discussed in this unit.
Students will need to note opening and closing times to complete the test during this time period. The test will be open for 90 mins (allowing 9 minutes per question on average) and only ONE attempt of the test is allowed. Once started, the test cannot be paused or restarted. As the test is online and open book, you will find it useful if you have produced your own notes and that you are familiar with the unit information.
Questions will be drawn from a pool of questions to allow tests to be different for each student. This assessment is to be undertaken as an individual. As with all other university assessments, colluding with other students on non-group work tasks is considered academic misconduct, and may lead to action being taken.
The online test will be open from the Monday of week 12 (4th October 2021) at 09:00 am (AEST) to the Sunday of week 12 (10th October 2021) at 07:00 pm (AEST). Students based in Western Australia, please be aware of the time difference between your state and the AEST.
Please note: To allow 90 minutes of access time. You MUST start the test before 05:30 pm (AEST) on Sunday 10th of October as the test automatically closes at 07:00 pm (AEST).

Assessment Due Date
Week 12 Friday (8 Oct 2021) 7:00 pm AEST

The access to the online test will be open until Sunday 10th of October 2021, 07:00 pm AEST.

Return Date to Students
Exam Week Friday (22 Oct 2021)

Grades will be available by Friday 22/10/2021 2:00 pm AEST.

Weighting
50%

Minimum mark or grade
You must achieve a minimum grade of 50% of the overall marks associated for this assessment to pass this unit.

Assessment Criteria
Responses will be assessed according to

- Use of appropriate terminology and descriptors as well as grammar, spelling, the relevance of response and competence in addressing all elements of the question.
- The student's ability to appropriately interpret sonographic images/graphs/tables and then to succinctly compose an appropriate response based on their learning from the unit.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
The online test can be accessed from Monday 4th of October 2021 at 09:00 a.m.(AEST) to Sunday 10th of October 07:00 p.m. (AEST).

assessmentOutcome

- Discuss the classic signs, symptoms, aetiology, and prevalence of major peripheral, abdominal and extra cranial vascular disease
- Analyse sonographic anatomy and haemodynamic appearances of normal and pathological features of the peripheral, abdominal and extra cranial vasculature in order to interpret and communicate the sonographic findings
- Detect vascular pathology through analysis and interpretation of ultrasound images obtained from clinical case studies of common and rare vascular conditions

assessmentGradAttribute

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem