MEDS20007 *Advanced Paediatric Ultrasound*

Term 1 - 2023

Profile information current as at 12/10/2024 07:34 pm

All details in this unit profile for MEDS20007 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

This unit will cover the role of sonography to evaluate conditions to guide the safe management of paediatric patients within an ethical framework of family-centred practice. You will develop knowledge regarding indications for sonographic imaging, advanced sonographic protocols using existing and emerging technology, and how to differentiate between normal and abnormal sonographic appearances. This knowledge will allow you to enhance your advanced sonographic imaging practices related to paediatric patients, interpret sonographic findings and sonographically guide interventions undertaken in the radiology department.

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 1 - 2023

- 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. **Written Assessment**
Weighting: 40%
2. **Online Test**
Weighting: 60%

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 Unsolicited email

Feedback
Students found the unit enjoyable and interesting while finding the assessment tasks challenging.

Recommendation
Continue to provide interesting and relevant learning opportunities to challenge the students but consider other options with respect to the assessment tasks.

Feedback from SUTE

Feedback
Students asked for exemplars of the written assessment task.

Recommendation
Consider providing exemplars of assessment 1.

Unit Learning Outcomes

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

1. Evaluate sonographic imaging of the paediatric patient, including normal and abnormal sonographic appearances, and the use of sonographic findings to guide patient management.
2. Research and evaluate the use of existing and emerging sonographic technology and imaging protocols to investigate the paediatric patient in a safe and ethical manner.

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
1 - Written Assessment - 40%	•	•
2 - Online Test - 60%	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes	
	1	2
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 - Written Assessment - 40%	∘	∘	∘		∘	∘		
2 - Online Test - 60%	∘	∘				∘		

Textbooks and Resources

Textbooks

MEDS20007

Supplementary

Pediatric Sonography
Edition: 5th (2018)
Authors: Marilyn J. Siegel
Lippincott Williams and Wilkins
Philadelphia , United States
ISBN: 1496370562
Binding: Hardcover

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microphone and camera to attend the Zoom sessions

Referencing Style

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

Teaching Contacts

Jennifer Alphonse Unit Coordinator
j.alphonse@cqu.edu.au

Schedule

Week 1 - Introduction to Paediatric Ultrasound - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Welcome to Advanced Paediatric Ultrasound **Introduction:** • Psychological Development • Appointments, waiting area, examination • Appropriate equipment • WHS/OHS • Ultrasound safety (specific to paediatrics)	Lectures and essential reading on Moodle site	**Zoom Tutorial -** Wednesday 7-8pm AEST. Zoom tutorials can be accessed via the virtual classroom. The tutorial recording will be placed under the week 1 tile.

Week 2 - Working with Children - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Working with children in a healthcare setting: • What is a child? • Terminology defined • Child protection and working with children with respect Australian legislation	There is a lecture as well as essential reading and other resources available on the Moodle.	

Week 3 -Developmental Dysplasia of the Hip (DDH) - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Developmental dysplasia of the hip The lecture this week is presented by Elaine Wang, a CQU lecturer based in Sydney.	Lectures, notes, resources and essential reading on the Moodle site	

Week 4 - Paediatric Eye - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Eye: • Embryology • Anatomy • Physiology • Pathology The lecture this week is presented by industry expert Lino Piotto.	Lectures and extensive notes on Moodle site Additional resources with respect embryology can be found under the tile "Embryology"	

Week 5 - Neonatal Spine - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Spine: • Scanning Technique • Anatomy • Common Pathologies Lectures this week are presented by industry expert Allison Holley.	Lectures ,notes and essential reading on the Moodle site Embryology in relation to the development of the the spine is assumed knowledge but can be revised via the Moodle tile entitled "Embryology"	

Vacation Week - 10 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - Paediatric GIT - 17 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
The Abdomen and Bowel: • Infantile Hypertrophic pyloric stenosis (IHP) • Malrotation • Intussusception • Appendix Lectures this week are presented by industry expert Allison Holley.	Lectures, notes and essential reading on the Moodle site Embryology in relation to the GIT is assumed knowledge but can be revised via the Moodle tile entitled "Embryology"	

Week 7 - Scrotum and Testes - 24 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
The Scrotum and Testes: • Scanning technique • Anatomy • Common pathologies Lectures this week are presented by industry expert Allison Holley.	Lectures, notes and essential reading on the Moodle site Embryology in relation to the scrotum and testes is assumed knowledge but can be revised via the Moodle tile entitled "Embryology"	

Week 8 - Female Pelvis - 01 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
The Female Reproductive System: • Normal anatomical development • Scanning Technique • Reasons for referral • Common pathologies	Lectures and notes on the Moodle site Embryology in relation to the female pelvis is assumed knowledge but can be revised via the Moodle tile entitled "Embryology"	**Assessment 1 Due this week** **Educational Paper on Paediatric Ultrasound** Due: Week 8 Friday (5 May 2023) 4:00 pm AEST

Week 9 -Renal, Adrenal, Ureter and Bladder - 08 May 2023

Module/Topic	Chapter	Events and Submissions/Topic

The Urinary Tract: • Prenatal renal pelvis dilatation • Common pathologies • Adrenal Glands This weeks, the lectures are presented by industry expert Amanda Crow focus on renal and adrenal pathologies.	Lectures, notes and required reading on the Moodle site. Embryology in relation to the urinary tract is assumed knowledge but can be revised via the Moodle tile entitled "Embryology"	

Week 10 - Neonatal Brain and Head - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
The Brain: • Scanning Technique • Reasons for referral • Common pathologies • Anatomy This week there is a lecture presented by industry expert Rommel Cruzado cover scanning techniques, ultrasound appearance of neonatal brain and common pathologies Lectures by Dr. Michelle Fenech cover a level of assumed knowledge with respect the anatomy of the brain and skull.	Lectures, notes and reading on the Moodle site	

Week 11 - Vascular Malformations and Paediatric MSK - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Advanced Techniques This week there are two lectures by industry expert Cain Brockley: • Vascular Malformations • Paediatric MSK	Lectures, notes and recommended reading on the Moodle site.	**Zoom Tutorial** - Wednesday 7-8pm AEST. Zoom tutorials can be accessed via the virtual classroom. The tutorial recording will be placed under the week 11 tile.

Week 12 - Revision Week - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Revision There is no new content this week. This week offers students the opportunity to revise and ask questions prior to the online test going live in exam week. There is a practice quiz which will go live after the zoom tutorial in week 11. The practice quiz is optional however it will offer students the opportunity to experience an online test environment. An overview of correct answers relevant to the practice quiz for the M/C, short and long answer questions will be revealed on Wednesday of week 12, under the week 12 Moodle tile (where the practice quiz is located).	Lecture on how to complete an online test.	If you have any questions about the quiz please post on Q&A so that your colleagues can also share in the learning.

Exam Week - 05 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
Online Test The online test opens at 9am on Monday of Exam Week and closes 1 week later Online Test will take 2 hours		Online Test **Online Test** Due: Review/Exam Week Monday (5 June 2023) 9:00 am AEST

Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

Your unit coordinator (UC) for this unit is Dr. Jennifer Alphonse who is available Monday, Tuesday and Wednesday. Lectures are provided by different industry experts and as such are recorded in different video platforms. Tutorials are offered throughout the term in the evenings or as required. The scheduling of tutorials will be posted via the News Forum. A link to the Zoom Tutorials is available in the Virtual Classroom tile and tutorial recordings will be made available under the specific week tiles in which the tutorials are offered.
This unit is a theoretical unit, designed to extend your knowledge related to paediatric ultrasound. It is important at a Master level that you regularly engage with current literature, and critically think about the content you read, and how it informs your clinical practice. You are encouraged to think about published literature related to advanced paediatric ultrasound, and the evidence which will underpin your sonographic clinical practice. Through the learning resources provided within this unit and the literature you engage with, your knowledge of ultrasound in relation to the sonographic assessment of the paediatric patient will expand. The unique and often specific pathologies encountered and the differences in sonographically assessing adults and children will be discussed. Demonstration of these sonographic differences will be provided, allowing you to incorporate your learning into your day-to-day clinical practice.
The assessment tasks utilized within this unit are designed to encourage you to engage with current literature more critically, rather than just learn theory from lectures.

Assessment Tasks

1 Educational Paper on Paediatric Ultrasound

Assessment Type
Written Assessment

Task Description
The written assessment for MEDS20007 requires you to prepare and submit an educational paper (2000 words).
The paper requires you to explore an advanced paediatric ultrasound examination, the sonographic technique required to demonstrate relative structural anatomy, normal sonographic appearance and either an unusual pathology or the incorporation of new technologies to assess the chosen structure and/or pathology. All submissions must include a critical review of current literature, agreements, or lack of consensus in reported findings and identifications of any potential gaps in knowledge to inform future research.
The paper must be written in a formal, objective, and technical academic writing style. Sonographic images and anatomical diagrams should be used where possible to enhance reader understanding and engagement. Figures/images and/or tables must be original or permission to re-use must be gained and reference to figures and tables must be demonstrated within the text of the paper.
The educational paper may be completed in one of three different formats:
1. Paper presenting a paediatric ultrasound narrative review
2. Paper presenting a paediatric ultrasound case report
3. Paper presenting a paediatric ultrasound case series
The educational paper needs to contain the following components:

- Introduction

The introduction will supply sufficient background information for the reader to understand and evaluate the chosen paediatric ultrasound topic and detail why it is relevant to the sonographic profession.

- Body of the Paper

Involves a critical review and synthesis of relevant literature related to the topic or case report/case series. Includes a discussion of;
-The relative sonographic anatomy to be imaged, the sonographic technique and subsequent normal sonographic appearance
-Pathologies or a specific pathology/injury that may be demonstrated and their abnormal sonographic appearances
-How the sonographic assessment of a paediatric patient differs to that of an adult patient
-Identification of new findings in current literature, that may not be well appreciated by sonographers
-Impact of new ultrasound technology(s) and the impact on paediatriac ultrasound
-Discussion of whether there are gaps in knowledge and whether further research is required to gain a consensus in the literature

- Conclusion

Re-state implications of findings and relevance for sonographic clinical practice and suggest areas for future directions.

- References

Depending on which type of format of an educational paper you choose to write and submit, an outline of further information regarding these different formats is provided below.
The educational paper which is a ***narrative review*** will summarise existing knowledge regarding your topic choice related to advanced paediatric sonography which has been published in current literature. Your research topic should be refined using the Problem, Intervention, and/or Comparison and Outcome model (PICO).
The body of the paper will be subdivided into:

- Methodology
- Results
- Discussion

The educational paper that incorporates a ***case report*** will contain a detailed discussion of the sonographic assessment of a single paediatric case which involves either:

- An unusual presentation of a paediatric condition and the sonographic imaging and assessment undertaken or
- The sonographic assessment of an uncommon clinical condition/injury, or uncommon sonographic finding

The educational paper that incorporates a ***case series*** will require you to discuss the sonographic assessment of multiple paediatric cases where a common theme was identified.
The body of the paper that incorporates a case report or case series will be subdivided into:

- Case and/or case series description
- Critical appraisal and detailed reflection of the included images related to the sonographic assessment

You will be required to obtain images from your own clinical sonographic practice to complete a case report or case series.

Assessment Due Date
Week 8 Friday (5 May 2023) 4:00 pm AEST

via Moodle site

Return Date to Students

Return will be at or about week 10

Weighting
40%

Minimum mark or grade
50%

Assessment Criteria
Assessment criteria for assessment 1 is in accordance with the detailed marking rubric, available on the Moodle site. Word limit 2000 words +/-10% excluding titles, headings, references and legends associated with images, figures and tables. All images are to be deidentified and if figures/images are taken from a peer review journal, permission from the publisher is required and evidence included in an appendix.

- Submission format is as a Word document.
- Font - Arial or Calibri, size 12 with 1.5 spacing.
- A plain cover page should be included specifying; unit code and unit name, educational paper title, your name and student number, unit coordinator and word count. No decoration or insertion of pictures on the cover page due to Turnitin requirements.

Written style, presentation and communication

- Information presented is synthesized into a unified, coherent, whole document which demonstrates internal coherence and logical flow
- There is a clear progression from introduction through to conclusion
- Literature reviewed is critically analyzed , relevant to the topic and reflected in the discussion
- Written and presented in a scholarly style which is also interesting and effective
- Findings are clearly communicated in a style that incorporates both specialist and non-specialist audience
- Findings are clearly articulated and demonstrate critical judgement
- Independently written and can foster intellectual debate

- Contributes information that is relevant and of value to the field concerned
- Writing is original
- Accurate, appropriate and complete in-text citations and reference list
- Appropriate language; clear, accurate and used to maximum effect
- Outstanding command of grammar, spelling and punctuation with thorough editing

Referencing Style

- Vancouver

Submission
Online

assessmentOutcome

- Evaluate sonographic imaging of the paediatric patient, including normal and abnormal sonographic appearances, and the use of sonographic findings to guide patient management.
- Research and evaluate the use of existing and emerging sonographic technology and imaging protocols to investigate the paediatric patient in a safe and ethical manner.

assessmentGradAttribute

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

2 Online Test

Assessment Type
Online Test

Task Description
You are required to complete an online test at the end of term to demonstrate your depth of knowledge gained relative to this unit. You will be assessed on the content covered in the whole unit (weeks 1 to 12). This includes material covered in lectures, tutorials and any additional resources and reading supplied during the term. The test involves a combination of question types, including short and long answer questions which require typed answers and some multi-choice questions. Image interpretation may be included in short and long answer questions.

This online test must be completed by you, without assistance or collusion with others. Any evidence of collusion will be dealt with in adherence with the CQU student academic integrity policy and procedure.

Assessment Due Date
Review/Exam Week Monday (5 June 2023) 9:00 am AEST

The test will be open for 1 week from 9am Monday 5th June, 2023. You have 120 minutes to complete the test and you will need to allocate 120 minutes during the accessible period to complete it. The test cannot be paused once started, or reattempted once finished.

Return Date to Students

Results will be made available after marking is completed, however all grades are considered 'interim grades' until the unit grades are released (after they have been certified).

Weighting
60%

Minimum mark or grade
50%

Assessment Criteria
For multiple choice questions, you will be required to select the most appropriate answer from a selection of possible answers in relation to the question asked.
Typed response answers will be assessed according to:

- Use of appropriate medical and sonographic terminology/descriptors and directional terms
- Correct spelling of the terms
- Relevance of response to the question asked

- Adequate detail provided in the answer
- Depth of understanding demonstrated

Referencing Style

- Vancouver

Submission
Online

assessmentOutcome

- Evaluate sonographic imaging of the paediatric patient, including normal and abnormal sonographic appearances, and the use of sonographic findings to guide patient management.

assessmentGradAttribute

- Knowledge
- Communication
- 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