

Instructions for Written Assignment – Case Study

Case Study Assessment Due Date: Tuesday 10th October @ 11.00pm Adelaide time.

Word Count: 2500 words

Worth 35% of total mark for course

Assignment Introduction:

Sonographer accreditation is a mandatory requirement for both practicing sonographers and student sonographers engaged in healthcare practices that offer Medicare-eligible sonographic services. The accreditation process for sonographers is overseen by the Australasian Sonographer Accreditation Registry (ASAR). Upon successful completion of an accredited postgraduate sonography course, which includes meeting the minimum clinical training requirements, entry-level sonographers become eligible for inclusion in the Registry of Accredited Medical Sonographers. The "Standards for the Accreditation of Sonographer Courses" document, issued by ASAR, outlines the educational and clinical training standards necessary to practice as an accredited medical sonographer. These standards ensure the quality and competence of professionals in this field.

Additionally, a profession-wide collaborative research project, funded by the Australian Sonographers Accreditation Registry, was conducted between 2019 and 2020. This project aimed to develop a comprehensive competency framework for medical sonography, setting the expectations for professional competence across various levels of sonographic practice. The resulting multi-dimensional competency framework defines the required skills, knowledge, and attitudes from beginner to expert levels. The framework includes threshold criteria that serve as benchmarks for assessing competency attainment. Competencies play a crucial role in establishing consistent standards and serve as observable indicators for evaluating professional performance. They form the foundation for registration and credentialing processes in the healthcare profession.

The ASAR now incorporates this newly developed competency framework when accrediting university courses. It outlines the expectations for entry-level sonographers, which students need to meet upon graduating from their program to become competent entry-level sonographers. As per the ASAR guidelines set out in these documents, students must demonstrate competency in performing shoulder ultrasound examinations to fulfil the graduation requirements related to musculoskeletal sonography. This assignment serves as an opportunity for students to enhance their clinical skills in the area they will need to demonstrate scanning competency in before graduating while integrating the knowledge they develop through completing the course modules. The assignment also helps to enable work integrated learning between theory and clinical settings and is something that is essential for students to become proficient in sonographic scanning techniques, making this assignment instrumental in their skill development.

In this assignment, students are tasked with performing a routine shoulder ultrasound on a normal volunteer, ensuring adherence to the scanning protocol provided by their workplace, or utilizing the recommended protocol resources mentioned above. It is crucial for students to practice and become comfortable with different scanning planes, accurately locating the included anatomy, and optimizing image quality by adjusting depth, gain, focus, and minimizing artifacts. By conducting thorough research using scholarly resources such as textbooks and journal articles, students can investigate, organize, and integrate the information necessary to complete the assignment successfully.

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Before you begin your assessment, please ensure that you read and consider the following information:

1. Academic Integrity:

It is essential to review your responsibilities relating to academic integrity. Please visit the following link to understand the guidelines: <https://lo.unisa.edu.au/mod/book/view.php?id=252142>. Note that the marking rubric also emphasizes academic integrity.

2. Referencing:

You must use APA Referencing Style for your assignment. Make sure to include 7-10 scholarly references that are less than 10 years old. It is important to verify that your references have been presented correctly before submission, especially if using an automatic reference process such as EndNote. Non-compliance with APA Referencing Style will result in an automatic fail. Refer to the following link for the referencing guide:

<https://lo.unisa.edu.au/course/view.php?id=3839§ionid=555859>.

3. Formatting:

Follow these formatting requirements for your assignment:

- Font: Times New Roman
- Spacing: 1.5
- Font size: 12
- Margins: 2.5cm on all sides
- Submission format: Word document
- Word count: 2500 words (excluding image section and reference list but including in-text referencing).

4. Assignment Marking Rubric:

Your assignment will be assessed according to the provided marking rubric. Refer to the rubric for guidance on the percentage weightings of each component. Use it as a guide for including appropriate information in each section of your assignment.

5. Grading & Feedback:

You will receive an overall grade of HD, D, C, P1, P2, or F for this assignment. Read the feedback provided by your marker within the word document and apply it to future assessments. The

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feedback aims to enhance your knowledge, writing skills, and ability to apply them in future studies, research, and clinical practice.

6. Patient Confidentiality:

Include a signed statement from your supervisor confirming that you followed workplace protocols regarding patient confidentiality and permission procedures. The required form is available in the assessment section on the course learn online site. Remember to de-identify all images used in your assignment.

This is very, very, important, if the student doesn't provide the signed patient confidentiality form and does not de identify their images then they will fail the assignment.

Assessment Instructions – Step-by-Step Guide:

To find the assignment on the course learn online site – go to the 'Assessment – Written Assignment (Case Study)' section on the navigation menu (look to the left of the screen) and then click on the green book – this is the Workbook for the assignment and contains everything students need for the assignment.

Task 1: Review the learning resources

- Visit the course learn online site and access the learning resources provided for Module 5 - Shoulder. Navigate to the 'Module Workbook' and move through to the 'Readings' and 'Presentations' chapters.

- Pay close attention to the resources detailing scanning protocols:

- The 'scanning protocol for the clinical setting' presentation,
- The ESSR protocol document that you will find in the module study guide, and
- The protocol explained in the following link:
<https://link.springer.com/article/10.1007/s13244-010-0032-9>

Task 2: Perform a routine shoulder ultrasound

- Select a volunteer (work colleague, family member, or friend) with a normal shoulder who has no previous injuries or surgery to the region.

- Follow your workplace protocol for a shoulder ultrasound or use the provided protocol resources (mentioned in task 1) if your workplace does not routinely perform shoulder ultrasounds.

Using either of the above methods is okay but they need to mention this within their response for task 5.

Some students have emailed me saying that their workplace does not allow them to use a volunteer or colleague for their scan. If they use a patient as their scan, this is okay, but it must be deidentified and they need to mention this within their task 5 response.

Task 3: Image the different areas of anatomy included in the protocol

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- Capture at least two images of each area according to the protocol you are following.
- Be sure to optimise your images and demonstrate your anatomy well so that what you are imaging can be visualised well on every image.
- Also ensure that each image is appropriately labelled such as Biceps Trans – proximal to distal etc. See images on following page for examples.

Task 4 (Part 1): Incorporate images into a Word document

- Once you have completed your scan, access your images to add them to your assignment. How you do this will depend on the machine and PACS system that you are using. You can do a quick google search, ask workplace colleagues or post on the discussion forum if you need further guidance on how to do this for your equipment.
- De-identify all images (but please keep the date and time stamp on them) and download them to include in a Word document. Any assignments that include images that have not been deidentified will result in an automatic fail.
- Copy and paste the images into a Word document in a sequential fashion. Using the same order that you performed the scan would be best.
- This will form **part 1** of your assignment.
- Do not include cine captures in your assignment.
- You must also include the **supervisor consent form** at the end of your assignment. This form is available in the assignment section on the learn online site.
- Below is an example of the layout we are after for your images within the word document:

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Images should be included as demonstrated above labelled and presented in a sequential order. The protocol should include at the least the following images as this is what has been taught in the course. If they include extra images, that is okay but if the below areas are not included then please comment on this and direct them to review the imaging protocols contained within module 5. Protocol as follows for a routine shoulder ultrasound:

- Biceps – trans + long & dynamic assessment
- Subscapularis – trans + long & dynamic assessment

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- Supraspinatus – trans + long & dynamic assessment of abduction to check for impingement
- Infraspinatus – long
- Teres minor - long
- Acromio-Clavicular joint
- Coraco-Acromial ligament
- Posterior Glenohumeral joint – Glenoid Labrum

Commenting on images and their appearances and if they are adequate is okay for this section but keep in mind that these students are at a beginner level so offer advice rather than criticise and don't mark this task too harshly unless they are way off the mark or have obvious issues such as region of interest not in centre of image, imaging the incorrect area or gain way too high etc. If there are any issues, please let me know and I will have a look as well.

Something else to consider, check the date that the scan was performed as this should be within this study period so after July 2023. Also, look at the time stamps and how long the student took to acquire the images, comment if they were completed in a short time say under 7 minutes. Students may complete the scan and then go back and re do certain images, this is okay as some students have mentioned that they had limited time to complete the scan or practiced and felt they got better images for some regions.

Look at part 1 of the marking rubric to mark this section.

Word count not included for this section.

Task 5 (Part 2): Explain the scanning protocol used and related details

- Provide information on the imaging protocol used (whether it was your workplace protocol or another) and explain the reason for your choice.
- Specify the following information related to your protocol:
 - Probe/s used for your scan. List the probes and explain why.
 - List each area of anatomy imaged and describe the normal sonographic appearance for each area. A good description for each area would be expected for this component – this might be presented within a table or dot points – this is okay. Will also need to describe using appropriate sonographic terminology to do well here.
 - Describe the imaging planes used for each area. This might be also explained within a table format or might be more of a general discussion to save on words – both would be acceptable.
 - Explain what you were assessing while examining each region. This will tie in with the normal sonographic appearances and might be presented within a table as well. Students will need to describe using appropriate sonographic terminology to do well here and need to demonstrate a good understanding of how these ties in with the clinical setting.
 - Discuss any challenges encountered during the scan and how you overcame them. They will need to identify things such as anisotropy, depth, focus and gain and demonstrate a good understanding of what they should be producing image wise. If they can acknowledge areas

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where they struggled and how they can correct this, then they should do well for this component.

- Identify areas for improvement in future shoulder scans. **Comment as above.**
- This will form **part 2** of your assignment.
- Use headings to structure your response and keep under **1500 words.**

Students must include all components here to do well and use headings to help the discussion flow from one section to the next. Tables and images that are labelled would also be nice additions that will help students do well for this task.

Task 6 (part 3): Compare a normal and abnormal ultrasound image

- Select one image of a normal area of anatomy from your scan.
- Find an abnormal ultrasound image of the same area from a scholarly reference (journal article or textbook).
- On your two chosen images, label the anatomy demonstrated in both images.
- Describe the sonographic appearances of both images and make comparisons in your discussion.
- Briefly explain the gross anatomy and function of the selected anatomy. Use diagrams and images to help keep the word count succinct for this part of your response.
- Provide a brief background on the pathology present in the abnormal image, including pathophysiology, epidemiology, and aetiology. Use scholarly references to demonstrate that you have carried out some wider reading on your chosen pathology topic.
- This will form **part 3** of your assignment.
- Use headings to structure your response and keep under **1000 words.**

For this task, students **MUST** pick a normal image from their images.

The image **MUST** be one without pathology present and they have been instructed to detail which image they have used and include the image within their discussion so that there is no confusion for markers as to the chosen image. They will not need to reference the image taken from the scenario.

They then need to search and find an ultrasound image that depicts a similar anatomy region but displays abnormal ultrasound appearances. This one must be referenced correctly and needs to be from a scholarly resource.

BOTH IMAGES must have all anatomy thoroughly and correctly labelled to do well in this task.

They will then need to make comparisons between the two images. If they don't make comparisons and only state what is normal or abnormal, then they have not really done enough to demonstrate their understanding of one of the key concepts for this task. Dot points or a table format are ok for their answer.

Also, they need to:

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- Describe the ultrasound appearances for both images using appropriate sonographic terminology and make comparisons.
- Very briefly describe the gross anatomy of the region they have chosen.
- Very briefly explain the function of the organ.
- Again, very briefly include some background on the pathology such as pathophysiology, epidemiology, and aetiology.

As this task has been allocated only 1000 words, the focus for this task will be the image choices, the labelling, and the comparisons. Then we are looking for a brief discussion on the chosen pathology where they display a good understanding of their chosen pathology.

Task 7: Submission

- Follow the guidelines below for submission of your assignment.
- Submit your assignment as a Word document (not a PDF).
- Access the 'Written Assignment - Case Study' Submission Link in the 'ASSESSMENT: Case Study' section on the learn online site.
- Generate a Turnitin report when submitting the Word document.
- Ensure correct APA referencing for in-text citations and the reference list.
- Keep your answers succinct, following the specified word count.
- Use the provided assignment instructions document and marking rubric as a guide for your responses and seek advice on the discussion forum if you need further assistance for the assignment.

Referencing & Academic Integrity & Assignment Formatting

Based on your findings for the assignment overall:

- Have they provided evidence of wider reading for their research?
- Have they performed well relative to academic integrity (UniSA Harvard referencing and paraphrasing)?
- Have they referenced well in-text?
- Has their reference list been produced correctly?
- Did they use 10 or more **scholarly** references (textbooks and journal articles – not websites)?
- Have they stayed within or around the word count?
- How was their writing style?

For further guidance please refer to the rubric when marking this section of the assignment.

Here is a link to the quick reference guide if I need to check something with referencing:

<https://lo.unisa.edu.au/course/view.php?id=3839§ionid=61510>

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Please let me know if you notice any of the following for a student that is on your marking list:

- Does not hand in an assignment.
- Hands their assignment in as a PDF file.
- Does not generate a Turnitin report or there is an error with Turnitin.
- Submits their assignment after the due date and has not applied for an extension (you will see a flag pop up under their name if they have).
- Has a very high Turnitin report percentage (you will see this under their submission in submission portal).
- Has plagiarised their work in any way.