National School of Healthcare Science

NHS England

IACC 2023 Case-based discussion (CBD) scenario

Specialty:	Imaging With Non-Ionising Radiation

CBD Scenario

CBD Scenario Title	Ultrasound QA Axial Banding									
CBD Scenario Aim	To assess understanding of Ultrasound QA and the implications of out-of-tolerance results on clinical imaging.									
CBD Focus (please provide the codes of the module(s) this scenario addresses)	*SPE154c4 Diagnostic Equipment Performance (c4)*		*SPE154c1 Ultrasound (c4)*		*SCC110 (c3)*					
GSP Domains covered (enter X to indicate all that apply)	**GSP 1**	x	**GSP 2**	x	**GSP 3**	x	**GSP 4**		**GSP 5**	
CBD Scenario description	When performing QA of an ultrasound machine, you find evidence of crystal drop-out for one of the probes. Explain to the sonographer responsible for the machine: • What the impact of the drop out might be on clinical imaging • How you have assessed the severity of the drop-out • What course of action you might recommend									
CBD Scenario model answer/ assessor guidance Detailed guidance that will be available for the assessors. Include guidance on what kinds of behaviours, actions, comments should secure a pass. What should the assessor expect to see? Assessors will be asked to plan questions in advance including links	**Pass indicators** The trainee should include at least one answer from each of the following three categories: 1. Impact on clinical images: • Dark areas of banding in clinical image obscuring area of interest • Unreliable Doppler measurements under drop out • Reduction of useful FOV 2. Assessment of severity:									

to trainee's IACC submission.	• Discussion with clinical users about impact given purpose of scans • Amount of banding/shading seen in phantom/in tissue • Assessment of drop out with/without processing and at different clinical pre-sets • Drop out location – centre of FOV vs. edge 3. Actions to take: • Contact engineer to have probe assessed/replaced if serious • Monitor progression with regular assessment in reverberation lines and in clinical images if acceptable • Make clinical users aware of issue and to avoid using this section of the probe **Fail Indicators** • Answers which show a lack of understanding of the clinical impact of poor image quality • Answers which show a lack of awareness of how to assess or respond to poor equipment performance
Trainee instructions Please include any specific information to be provided to the trainee as part of the CBD scenario	No additional instructions

Criteria being assessed by this CBD scenario

Aspect	Please indicate if this criterion is being assessed
1. Understands the clinical context of the scenario, including priority setting and testing strategies	X
2. Understands scientific principles of scenario	X
3. Can discuss the relevant procedures involved in the scenario and associated health and safety issues	X
4. Understands and applies the appropriate test validation, IQC, EQA, relevant professional/clinical guidelines	
5. Understands and applies associated IT/bioinformatics and other appropriate resources	

6. Is able to interpret and report patient results and provide appropriate clinical advice	
7. Can discuss the significance of patient results within the clinical context of the referral	
8. Understands the ethical, legal and social implications of the scenario	
9. Is aware of the importance of audit and can use this tool effectively	
10. Output meets accepted laboratory/professional standards	
11. Demonstrates awareness of the limits of responsibility and when to seek advice	X
12. Consideration of patient/professionalism	
13. Overall ability to perform	