Median sternotomy closure

Assessment of competences for a qualified SCP

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Please note: SCPs can add DOPS and PBAs as evidence.**

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| instinct | **NOT competent** | **Competent** | **Signature and date** |
| Inspection and performing median sternotomy closure in the operation theatre |
| 1 | Introduction* Confirm patient name and ID
* Discuss the patient’s condition
* Explain full surgical procedure
* Consent (confirm that you explained to the patient that you will be performing median sternotomy closure under supervision)
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| 2 | Anatomy and position* Explain anatomy of the sternum
* Discuss anatomical variations
* Discuss the adjacent vital structures
* Discuss the problems associated with median sternotomy closure
* Discuss the plan of action if things go wrong
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| 3 | Comorbidities and generic conditions* Skin conditions (psoriasis, eczema, dry skin tissues)
* Body build
	+ Thin build
	+ Moderate build
	+ Muscular
	+ Obese
* Diabetes
	+ Well controlled
	+ Poorly controlled
	+ Check:
		- HbA1c level
		- Blood glucose level
		- Random glucose level
* Discuss the patient’s age and sex
	+ Discuss the elderly patient’s skin tissue healing
	+ Discuss the difficulties of sternal thickness and selection of wires for particular type of quality of sternum
	+ Discuss the female sex and potential plan to avoid any complications
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| 4 | Surgical procedure* Demonstrate the use of sternal closure instruments
* Demonstrate the use of diathermy and carry out haemostasis appropriately
* Demonstrate and understand the importance of sternal wiring and how many wires are needed to close the sternum
* Demonstrate the importance of 2 wires in the manubrium, 3–4 wires in the body of the sternum and 1 or 2 wires on the xiphoid process
* Demonstrate and understand the figure of eight, single wiring technique and double wire and its importance and complications
* Demonstrate and bring the sternum into two equal distance and place the sternal wire on equal distances
* Demonstrate and understand the parasternal and through the sternum wiring techniques on difficult sternum
* Demonstrate and understand crossing the wires and tightening the wire with appropriate force rather than breaking the wires
* Demonstrate good twisting and burying technique of the sternal wires
* Demonstrate the closure technique with appropriate sutures on two-layer muscle closure and skin closure according to local protocol
* Demonstrate the sternum into two equal distances from the midline
* Demonstrate the use of good haemostatic techniques before and after opening the sternum
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| 5 | Communication* Discuss problems with the multidisciplinary team
* Discuss the potential plan with the surgical team in the team briefing
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| 6 | Potential issues* Complications
	+ Discuss the potential complications of wire bleeding and re-exploration
	+ Discuss the potential complications of sternal infections
	+ Discuss the importance of sternal wire burying in thin patients
	+ Discuss the potential complications of sternal dehiscence
	+ Discuss the potential and preventive technique complications of puncturing the right ventricle, innominate vein and aorta during sternal wiring
	+ Discuss the potential benefits and complications of using bone wax on the sternum
	+ Discuss the benefits and complications of using haemostatic agents on the sternum before closure
	+ Discuss the potential benefits and complications of using topical antibiotics during sternal closure
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| **Assessor’s comments:** |
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| **The SCP has completed these outcomes to the appropriate standard.****Assessor’s name:****Signature and date:** | **SCP’s signature:****Date:** |

\*Please note that junior SCPs have to do at least 25 competences to develop their portfolio of evidence.