

## CARDIAC EXPLANT

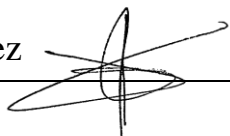
1. A heart weighing X g and measuring XXX cm is received. A pericardial patch / aortic artery / pulmonary artery / vena cava / pulmonary veins measuring XXX cm are identified.
2. Externally, no remarkable abnormalities are identified // an ischaemic / haemorrhagic / purulent area measuring X cm in diameter is identified, located on the X surface / X ventricle // induration is palpated within the X vessel // an external lesion measuring XX cm is identified, located at X site.
3. On serial sectioning / anatomical opening, no lesions are identified // whitish / brownish / violaceous foci measuring XXX cm are identified in X location, consistent with areas of infarction / chronic ischaemia // a fibrotic lesion measuring XXX cm is identified, compatible with a scar / infarcted area // a verrucous / neoplastic lesion measuring XXX cm is identified in X location, which on sectioning appears to involve / not involve the myocardium.
4. On sectioning, the X valve shows calcifications // the X coronary artery shows atheromatous plaques causing total occlusion / <50% / >50% luminal stenosis.
5. Anatomical measurements: right ventricular diameter X cm; left ventricular diameter X cm; right ventricular wall thickness X cm; left ventricular wall thickness X cm; septal thickness X cm.
6. Valvular circumferences: tricuspid valve X cm; pulmonary valve X cm; mitral valve X cm; aortic valve X cm.
7. Representative sections are submitted as follows:

### **1st, 2nd and 3rd Examples (Transplant Heart + Dilated Cardiomyopathy + Cardiac Lipomatosis)**

- A1: apex.
- A2 - A3: right ventricle.
- A4 - A5: left ventricle.
- A6 - A7: septum.
- A8: right atrium.
- A9: left atrium.
- A10: tricuspid valve.
- A11: pulmonary valve.
- A12: mitral valve.
- A13: aortic valve.
- A14: left coronary artery.
- A15: right coronary artery.
- A16: left anterior descending artery.
- A17: circumflex artery.

### **4th Example (Heart with Infarction and Coronary Artery Bypass Graft)**

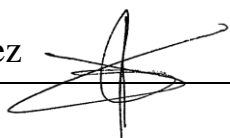
- A1: apex.
- A2 - A3: right ventricle (with ischaemic areas).
- A4 - A5: left ventricle (with ischaemic areas).
- A6 - A7: septum (with ischaemic areas).
- A8: right atrium.
- A9: left atrium.
- A10: tricuspid valve.
- A11: pulmonary valve.
- A12: mitral valve.
- A13: aortic valve.
- A14: left coronary artery.
- A15: right coronary artery.
- A16: left anterior descending artery.
- A17: circumflex artery.
- A18: pulmonary artery.

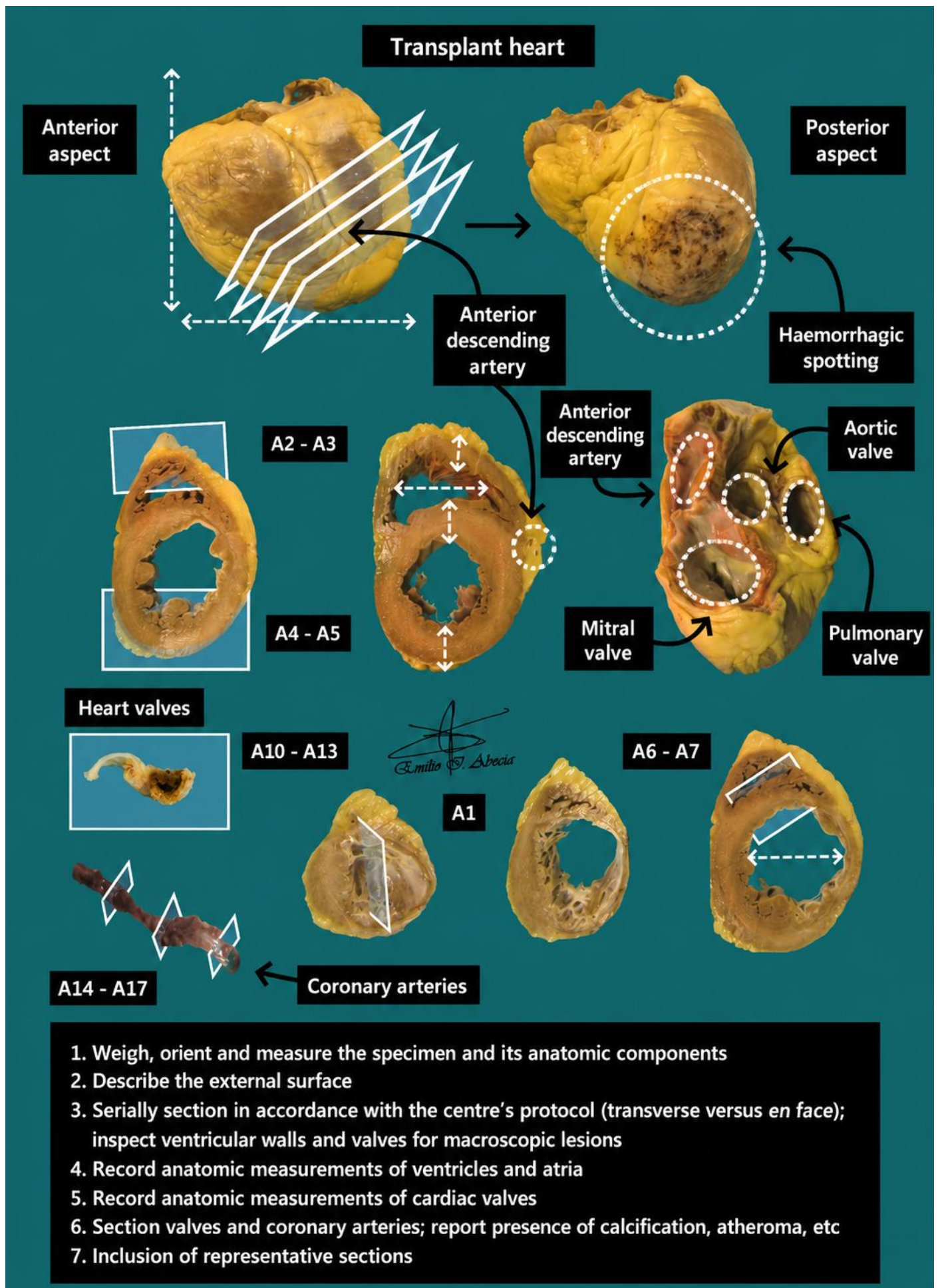


- A19: aorta.
- A20 - A22: sections from the bypass graft.

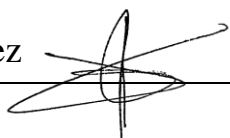
## TO CONSIDER

- These specimens are generally derived from autopsies, although cardiac explants and failed cardiac transplants may also be received.
- Review of imaging studies is recommended to better characterise the underlying pathology, and photographic documentation of the specimen is advisable for cardiomyopathies, malformations, and similar conditions.
- If calcifications or atheromatous plaques within the coronary arteries are known or suspected (based on imaging studies or clinical history), it is recommended that these arteries be dissected prior to cardiac dissection.
- Orient the specimen, weigh it, and identify the anatomical structures present (great vessels, pericardium, pulmonary veins, prosthetic devices, stents, etc.).
- The heart is usually serially sectioned from the apex towards the valves (approximately 1 cm intervals) or opened longitudinally through the four chambers. The chosen approach depends on the pathology under investigation: the former is preferred for more acute or localised lesions, whereas the latter is preferred for structural pathology (cardiomyopathies or congenital malformations).
- Once opened, carefully describe all abnormalities identified within the endocardium, myocardium, and valves.
- Carefully measure chamber diameters, ventricular wall thickness, valvular circumferences, arterial luminal stenosis, etc. Representative sections of the anatomical structures should be submitted. If a specific lesion is identified, additional representative sections should be taken.
- Submit representative sections:
  - Include a section from the apex.
  - Include representative sections from the right and left ventricles, atria, and septum.
  - Include sections from the valves and coronary arteries.
  - If great vessels are present, include representative sections.
  - If lesions are identified, include additional representative sections.





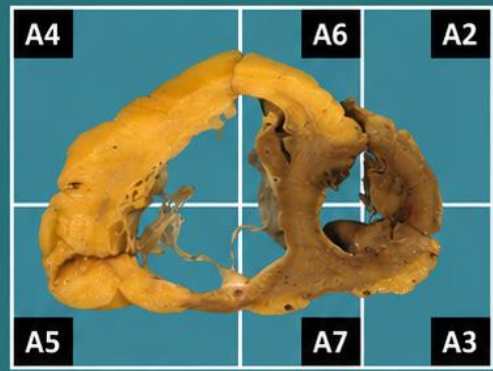
1. Weigh, orient and measure the specimen and its anatomic components
2. Describe the external surface
3. Serially section in accordance with the centre's protocol (transverse versus *en face*); inspect ventricular walls and valves for macroscopic lesions
4. Record anatomic measurements of ventricles and atria
5. Record anatomic measurements of cardiac valves
6. Section valves and coronary arteries; report presence of calcification, atheroma, etc
7. Inclusion of representative sections



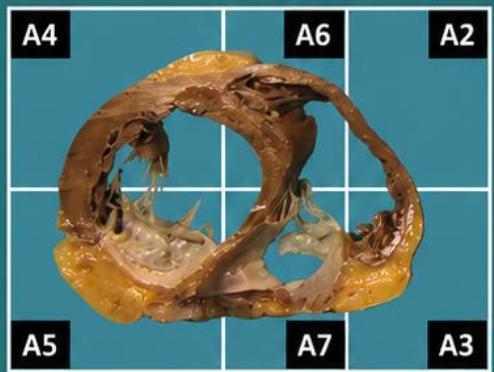
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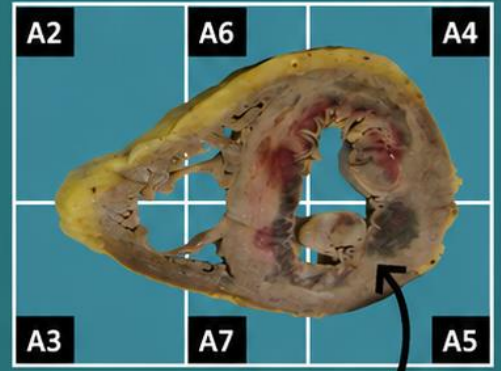
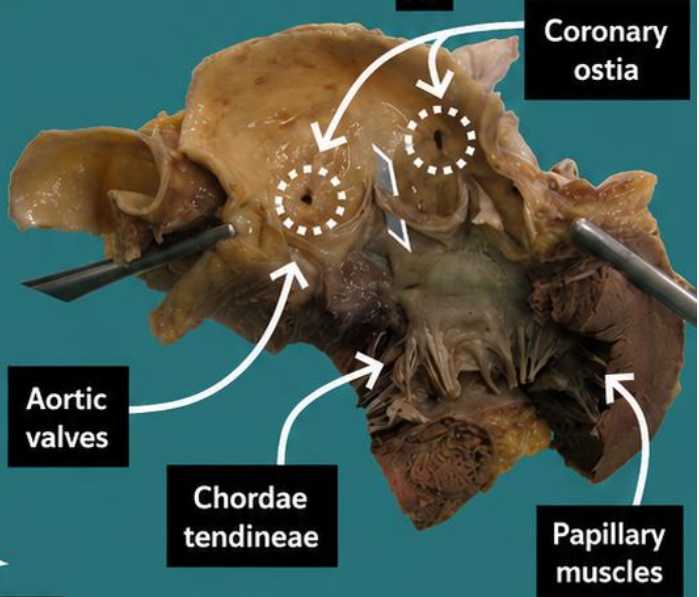
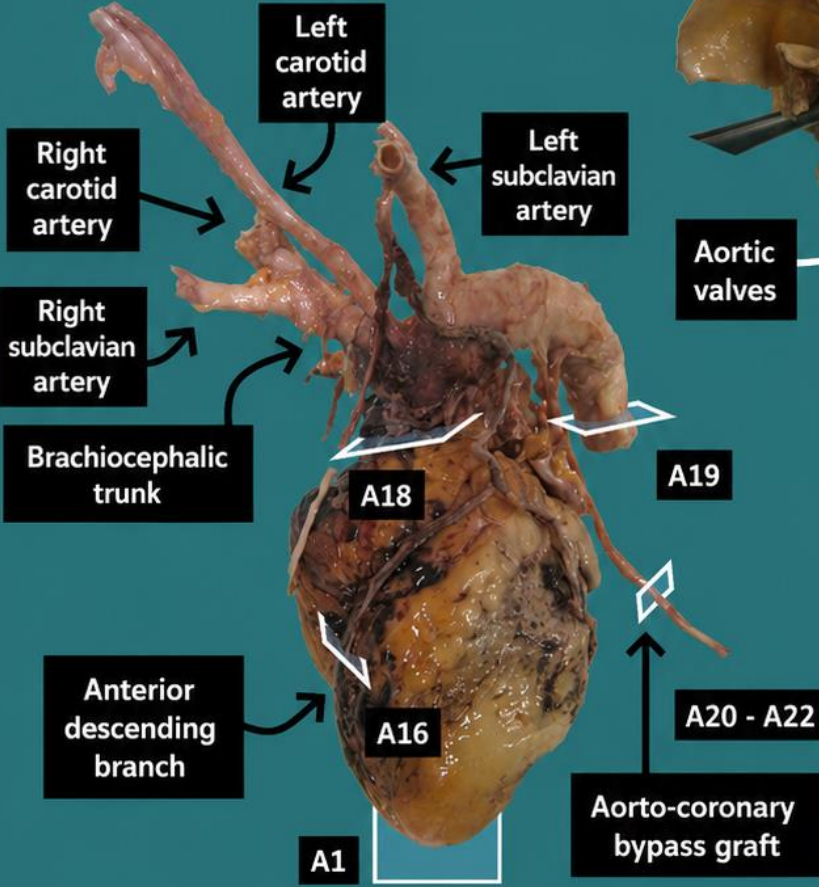
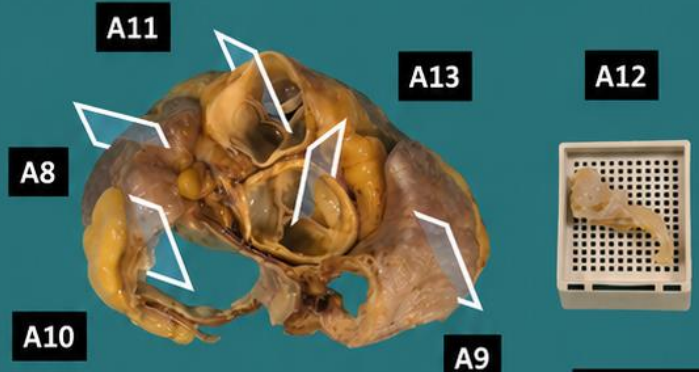
**Dilated cardiomyopathy**



**Cardiac lipomatosis**



**Heart with necrosis and bypass**



**Ischaemic areas**

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## BIBLIOGRAPHY

- Cipriani N., Rose S. (2019). *Heart Explant (Thorax & Peritoneum)*. Gross Pathology Manual (University Of Chicago). Recuperado el 13 de Mayo de 2024: <https://voices.uchicago.edu/grosspathology/thoracic/heart-explant/>
- *Heart Transplant (Cardiovascular)*. Gross Manual. UCLA Health. Recuperado el 13 de Mayo de 2024: <https://www.uclahealth.org/sites/default/files/documents/02/heart-transplant-10623.pdf?f=57e5a6da>
- Lemos, M. B., & Okoye, E. (2019). *Atlas of Surgical Pathology Grossing*. Springer Nature Switzerland AG. <https://link.springer.com/book/10.1007/978-3-030-20839-4>
- Susan C. Lester, French, C. A., & Curtis, S. G. (2010). *Manual of Surgical Pathology: Expert Consult* (ed. 3). Elsevier. <https://www.sciencedirect.com/book/9780323065160/manual-of-surgical-pathology>
- Shameem Shariff. (2019). *Fundamentals of Surgical Pathology* (ed.2). Jaypee Brothers Medical Publishers. <https://www.jaypeedigital.com/book/9789388958967>
- Westra, W. H., Ralph H. Hruban, Timothy H. Phelps, & Christina Iacson. (2003). *Surgical Pathology Dissection: An Illustrated Guide* (ed.2). Springer. <https://link.springer.com/book/10.1007/b97473>

## DISCLAIMER

The image and text are provided for illustrative purposes only. The tissue sections submitted and the description provided will depend on the individual specimen characteristics, the clinical diagnostic suspicion, the experience of the dissector, and the institutional guidelines of the laboratory.

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