

ANATOMY PUZZLE

Detecting puzzle — The Case of the Missing Landmark (Anatomy of the Heart)

A first-year anatomy class received an embalmed heart for dissection. The instructor removed the pericardium and made a standard anterior incision. As students examined the specimen they noticed several unexpected features. Your job (as the cardiac detective) is to **detect which anatomical structures or landmarks are missing, altered, or displaced** and explain why the clues point to them.

Scene clues (read all before answering)

- The **right border** of the heart is unusually flat; you can't find the prominent groove that normally runs vertically just to the right of the sternum.
- On opening the right atrium through the sulcus terminalis, the **crista terminalis** is faint and hard to trace.
- The valve guarding the opening from the right atrium to the right ventricle has **three cusps**, but one cusp is noticeably short and tethered.
- The **interventricular (anterior) surface** displays a deep groove with a large vessel running in it that ends near the apex — but the vessel appears much larger than the usual great cardiac vein.
- The area where the **AV node** should be (near the coronary sinus ostium and septal leaflet of the tricuspid valve) looks scarred and indistinct.
- On the posterior aspect, the **coronary sinus** is dilated and contains a short, wide opening into the right atrium.
- When the right ventricle chamber is gently filled with water, the moderator band is present but **shorter than expected**.

Detective tasks (answer these in order)

- A. For each numbered clue (1–7), **name the most likely anatomical structure** that is missing, altered, enlarged, or scarred.
- B. . For the top two findings you think are pathological, describe **one likely embryological or pathological explanation** for that change .
- C. E. Give a **one-sentence teaching tip** that helps students remember where the AV node is located in relation to the coronary sinus and tricuspid valve.

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B.Sc., CARDIAC TECHNOGY

ANATOMY PUZZLE

CRITERIA	DESCRIPTION	POINTS
1. Completeness	Answering all questions	5 pts
2. Accuracy	Clearly answering all questions	3 pts
4. Neatness	Clear handwriting, no erasures	2 pts
	TOTAL	10 pts