

Name: _____ Date: _____ Code _____

Heart valve replacement option	Constructed from...?	Lifetime of valve?	Does the valve cause blood clotting? (Y/N)	Summary of advantages / disadvantages
Mechanical valve	<i>Alloys, silicone, pyrolitic carbon, polyester</i>	<i>Designed to last a lifetime</i>	<i>Yes</i>	<i>Pro: These valves last much longer than prosthetic valve. Con: The valve can cause clotting meaning that the patient must take “anti-coagulant” medication. Backflow of blood can be an issue.</i>
Bioprosthetic / prosthetic valve	<i>Human or animal tissue</i>	<i>10-15 years</i>	<i>No</i>	<i>Pro: Using a natural material for the valve makes blood clotting unlikely. Con: Valve needs to be replaced every 10-15 years.</i>

Follow-up questions:

- 1) Would you recommend a mechanical or prosthetic heart valve replacement to a 75-year-old man?

The 75-year-old man should receive a prosthetic heart valve because the body more readily accepts natural tissue over artificial materials, meaning that the risk of blood clots is minimal and anti-coagulant medication is not needed. Furthermore, prosthetic valves typically prevent blood backflow better than mechanical valves.

- 2) What type of value would you recommend to a 11-year-old girl?

The 11-year-old girl should receive the mechanical heart valve, even though she will need to take anti-coagulant medication, because a prosthetic valve would need to be replaced multiple times during the rest of the patient’s life.