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RESEARCH CONTRIBUTION OF PROSTHETIC VALVE MANUFACTURERS INTERFACING ACADEMIC-INDUSTRY RESEARCH EFFORTS

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ABSTRACT

Prosthetic heart valve is one of the most successful implantable medical devices. However, introducing better performing and longer lasting prosthetic mechanical heart valves (MHV) into clinical use has been slow because predicting the long term performance of a new valve design is difficult.

Although significant progresses in many scientific fronts relevant to prosthetic heart valve development have been achieved, we still have an imperfect understanding of host responses to an implantable medical device and incomplete knowledge in associating hemodynamic characteristics of a valve design to clinical performance. Valve designers, frequently need to over design the valve components to ensure structural safety and thus, sacrifice the opportunity to optimize performance. Complications such as infection, thrombus formation, thromboembolic incidents, and hemorrhage associated to the use of prosthetic valves are still reported and valve designers are working hard to eliminate them.

Further advancing scientific knowledge in designing and evaluating prosthetic heart valves is of great interest to many Valve designers and manufacturers. Interfacing Industry and Academic research efforts has been thwarted due to predominantly proprietary issues. Considering the benefits of a better performing MHV to the patients, this industry session will bring researchers from various MHV companies and academic institutions to discuss how to share the results of scientific studies more effectively. This will help accelerate new MHV development without compromising the confidentiality of key valve design information. The issue of standardized MHV testing will also be addressed.