

Artificial Organs

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Artificial Organs
Gerald E. Miller

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Gerald E. Miller

Virginia Commonwealth University

SYNTHESIS LECTURES ON BIOMEDICAL ENGINEERING #4

ABSTRACT

The replacement or augmentation of failing human organs with artificial devices and systems has been an important element in health care for several decades. Such devices as kidney dialysis to augment failing kidneys, artificial heart valves to replace failing human valves, cardiac pacemakers to reestablish normal cardiac rhythm, and heart assist devices to augment a weakened human heart have assisted millions of patients in the previous 50 years and offers lifesaving technology for tens of thousands of patients each year. Significant advances in these biomedical technologies have continually occurred during this period, saving numerous lives with cutting edge technologies. Each of these artificial organ systems will be described in detail in separate sections of this lecture.

KEYWORDS

Artificial heart and ventricular assist, Artificial heart valve, Cardiac pacemaker, Dialysis, Human heart and heart surgery, Human kidney

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