Heart Pacemaker Electrode From Aerospace Alloy

An unusual new alloy being tested at NASA Field Centers appears to offer significant advantages as a cardiac pacemaker lead. The new material, located through efforts of a Biomedical Application Team, provides significant irprovement in fatigue resistant qualities over materials currently used. Improved care for coronary victims is expected to result.

Suggestion by NASA Engineer Used in Design of Valve to Relieve Hydrocephalus

An aerospace valve design used at Lewis Research Center is being adapted to assist in two important medical problems. One application is to alleviate a condition of fluid build up in the cranial cavity. In another application an implantable model of the valve is being fabricated to restore urinary control to incontinent patients.

Space Suit Technology

Space suit technology, developed for solving specific environmental problems in space is now being applied to difficult medical problems. Both cardiovascular researchers and clinicians have found useful new capabilities for temperature control and pressure application in patients as a result of Biomedical Application Team efforts which identified the space suit developments.

New Transducer Application Assists Cardiovascular Researcher?

A tiny pressure transducer being used to measure stress in aerospace materials has been made available to aid heart researchers conducting blood flow studies. In response to a need expressed by researchers at a major medical center, a NASA Biomedical Application Team located the tiny transducer with higher frequency response, greater resolution and smaller size than those normally available in the medical research field.

New Applications for NASA Spray-On Electrode

The NASA-developed spray-on electrode designed to acquire EKG's on test pilots has continued to find new applications in

New Applications for NASA Spray-On Electrode (Cont'd.)

biomedicine. In addition to acquiring clinical electrocardiograms and being incorporated into a remote ambulance unit as previously reported, the electrode technique has continued to aid the medical profession in a variety of ways. The latest applications are in neuromuscular rehabilitation and in brain function research utilizing electroencephalograms.

Shop Technology Aids in Medical Engineering Lab

NASA innovations in rigid quality manufacturing technology have found application in bioengineering laboratories. In response to problems defined by bioengineering lab personnel at a Midwest medical school, solutions based on information in NASA Tech Briefs were identified by a NASA-sponsored Biomedical Application Team, Identification of a new type cutting fluid and a new method of tool removal from chucks is expected to result in higher quality products being produced.

Telemetry System Contributes to Dental Research

A miniature telemetry system designed for aerospace use is now being adapted for dental research, A system developed at NASA's Ames Research Center is helping researchers to determine where tooth damage will occur because of pressure induced stress. This research is adding significantly to preventive dentistry.

NASA Technology Aids Cystic Fibrosis Research

An advanced aerospace research capability at the Manned Spacecraft Center has been made available to aid cystic fibrosis research. Through efforts of the Biomedical Application Team at Southwest Research Institute, a significant new method of ultramicroanalysis employed in aerospace medicine is being tested by medical researchers working on early detection and cure of cystic fibrosis.

Artificial Hip Joint from Aerospace Bearing Material

A new material produced for aerospace application holds promise for improving joint replacements in patients suffering from severe arthritis, A new polyamide resin was identiffed at a NASA center in response to a need expressed by medical school researchers. The new material offers low friction and wear, capability for being bonded to bone, and appears compatible with body tissues.

Panel Two: Section Two:

Spinoff Applications

Education: Advancement of computerized study.

Energy: Heat pipes for the Alaskan pipeline.

Geophysics: Better predictions of Earth's weather, from Mars studies.

Industry: Light weight, high strength, plastic piping.

Medicine: Small, micro-wave proof, rechargeable, electric Heart Pacemaker.

Nutrition: Long shelf-life, high nutrition foods.

Oceanography: Improved life support systems.

Pollution Control: Advanced, low cost, water purification.

Safety: New improved fireproof materials.

Urban Development: Technology for quality, low-cost, modular housing.

Panel Two: Section One:

SPACE BENEFITS MANKIND

Aerospace Spinoffs

Basic Science And Technology

All Sciences Spinoff From Basic Space Science

All Technology Has Its Origins In Pure Science.

As mankind learned how to work, in the environment of space, advances occurred in all fields of technology.

Many of these benefits would have been missed, with direct fixation of purpose, on a specific goal at hand.

Today, over 30,000 techniques are benefiting many areas of concern to mankind.

NASA's Purpose

"The Congress Hereby Declares, That It Is The Policy, Of The United States, That Activities In Space Should Be Devoted To Peaceful Purposes, For The Benefit Of All Mankind".

National Aeronautics And Space Act Of 1958

Panel One: Section Two:

The Higher Public Priorities

The post Apollo Program cutbacks came, due to a perception of competing national priorities. The Space Program has never been a real competitor to increased social progress in the world. It is part of the solution. A future, the youth can look forward to.

World hunger could be eliminated within 15 years, for less than 1% of the money, the world spends on weapons. This is about one 30th of 1%, of the world gross domestic product. A commitment of ½ of 1% of world gross domestic product, would be a reasonable international commitment to improve the human condition.

In the United States, many problems could be solved, without high federal funding, through increased public service, stronger extended families, and public commitment to traditional moral values.

To improve the human condition world-wide, we would need much human motivation from those in power, throughout the world, elimination of wars, increased public education with economic freedom, advancing technology with related economic growth, and public dedication to the moral wisdom of the ages.

We can have both social progress and space progress. The space budget could triple without slowing human social progress.