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IN REPLY REFER TO A-180-PR-362-AR

FALLOUT VALUE TO GENERAL MEDICINE AND OTHER USES BENEFICIAL TO GENERAL PUBLIC OF TESTING PROGRAM AT DOUGLAS CENTRIFUGE AND SPACE CABIN SIMULATOR. FROM DR. JIM GAUME, BIOTECHNOLOGY DEPARTMENT; DOUGLAS MISSILE & SPACE SYSTEMS DIVISION.

CENTRIFUGE:

TREATMENT OF
THE SHORT-ARM CENTRIFUGE PROGRAM MAY HAVE APPLICATION IN VASCULAR DISORDERS OF THE EXTREMITIES, WHERE SHORT-TERM LOADING OF THE EXTREMITIES MIGHT BE DESIRED. THIS LOADING CAN BE VARIABLE AND COULD BE A GRADUATED REGIMEN THAT COULD BE PROVIDED WHILE THE PATIENT ^{IS IN} ~~ASSUMED~~ A HORIZONTAL POSITION, ~~IF NEEDED~~. THIS TREATMENT MIGHT BE CONSIDERED AS THE OPPOSITE OF HYDROTHERAPY, WHERE A PATIENT IS PUT IN A WATER BATH SO AS ^{REDUCE THE} ~~NOT TO SUPPORT~~ ^{REQUIRED FOR THE LIMBS} ~~THE ARMS SO VIGOROUSLY~~ -- THAT IS, HYDROTHERAPY IS AN EXAMPLE OF THE OPPOSITE TREATMENT FROM WHAT CENTRIFUGATION WOULD PROVIDE.

NEGATIVE PRESSURE BOOT:

(A TANK PUT ON THE LOWER HALF OF THE BODY TO APPLY PRESSURE TOWARD THE FEET).

THIS MIGHT PRODUCE SIMILAR RESULTS AS THE CENTRIFUGE. EITHER OR BOTH OF THESE DEVICES IN A SUPERVISED EXERCISE PROGRAM COULD BE MOST USEFUL IN PHYSICAL THERAPY, REHABILITATION OR GENERAL CONDITIONING OF THE CARIOVASCULAR SYSTEM ^{FOR A NUMBER OF VASCULAR CONDITIONS}. THE NEGATIVE PRESSURE BOOT COULD BE USED FOR TREATMENT OF MUSCULAR DISORDERS WHERE AN INCREASE IN CIRCULATION TO THE MUSCLES OR AN IMPROVEMENT IN THEIR NUTRITION IS DESIRED.

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SPACE CABIN SIMULATOR:

THE CONTAMINANT CONTROL TECHNOLOGY GAINED IN THE SPACE-CABIN EXPERIMENTS MAY BE USEFUL IN HOSPITALS, CONVALESCENT HOMES, IN FACTORIES AND IN INDUSTRY IN GENERAL TO CONTROL CONTAMINANTS AND IN OTHER ASPECTS OF INDUSTRIAL HYGIENE. EVENTUALLY, THIS TECHNOLOGY COULD CONCEIVABLY BE EXTENDED TO AID IN SMOG CONTROL. SPACE FOOD TECHNOLOGY COULD HAVE APPLICATION IN CONTROLLED DIETS FOR SPECIAL PURPOSES IN UNUSUAL PLACES -- FOR MEDICAL REASONS, TO CONTROL DIETS OF ATHLETES, FOR USE ON EXPEDITIONS TO REMOTE REGIONS OF THE EARTH. BIO-INSTRUMENTATION AND MONITORING TECHNIQUES CAN BE USED TO SIMPLIFY MONITORING PROCEDURES FOR THE MORE RAPID EVALUATION OF PATIENTS' CONDITION UNDER ANESTHESIA OR IN OTHER HOSPITAL OR PHYSICIAN'S OFFICE PROCEDURES. HERE AGAIN, THESE TECHNIQUES MAY BE VALUABLE IN EXAMINING ATHLETES ON THE ^{PLAYING} FIELD. WASTE MANAGEMENT TECHNIQUES CAN EVENTUALLY BE EXTENDED FOR THE GENERAL PUBLIC'S USE BY WAY OF MUNICIPAL HEALTH AND SANITATION DEPARTMENTS IN THE MORE EFFICIENT HANDLING AND DISPOSAL (OR CONVERSION ^{AND REUSE}) OF WASTE MATERIAL.

cc: Dr. Jim Gaume, A-833