

Introduction -

A major problem in biomedical investigation on STS has been ⁱⁿ availability of crew, especially during the busy ~~or~~ 1st two days when ^{planned activities occupy almost all of their free time. It is also this period} changes ^{most of} the majority of changes of current interest occur. ^{when} There exists a large inventory of ^{SMS investigations from STS 4 through 8} demonstrated flight-ready hardware & procedures for such investigations, a legacy of SMS investigations on STS 4 through 8. With the availability of a crewman it ~~was~~ even on short notice, it was possible to ^{quickly} ~~mount~~ assemble a practical plan which would greatly add ~~a~~ significantly to the ^{existing} scanty data base ^{and would also test some modifications} of hardware.

An initial proposal for ^{comprehensive} extensive ^{medical} investigations was made ~~the~~ as follows -

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Introduct. - contd.

all caps A. Cardiovascular area

1. ^{leg} volumes ^{plethysmography}
 2. ^{fluid} intake & output ^{Total Body Water}

3. Heart Rate and Blood Pressure ^{Recording}

all caps B. Neurological area

1. Bowel Sounds ^(BS) ~~Gastric motility~~ ~~BS EGG + BS.~~

2. Electrogastragram (EGG)

3. Characterization of Space Motion Sickness (SMS)

a. Handheld Computer Test (Sternberg Test)

b. Eye Hand Tracking

c. Pupillary Size

d. Electrocardiogram (ECG)

e. Electroencephalogram (EEG)

f. Pallor

g. Temperature

4. Pharmacodynamics

Salivary Drug Monitoring of Acetaminophen

C. ANTHROPOMETRY

Height - ^{progressive} ^{changes} ~~Birth~~

Quantitative kinesiometric study of gait by photography, pre- and post flight and treadmill in flight.

Arm forces available with various postures/restraint

Introduction, cont'd.

For various ^{non-technical} reasons this original plan ~~we~~ had a number of items removed including

Fluid Intake Output

Perisimetric studies

Arm forces.

To accomplish this the remaining training coordination ~~and~~ ^{and} ~~hard~~ insure hardware ~~pro~~ readiness ~~and~~ ^{with} individual ^d knowledge & previous experience was assigned to the operational aspects full time. (Dr. Tom Moore).

^{no off} A training and inflight schedule ^{be. stop} was prepared ^{and} ~~After~~ ^{CH} several launch & vehicle changes occurred. The following is a brief non-technical report of the procedures & results ~~on~~ from STS-51D