

CREW PROCEDURES CHANGE REQUEST

INITIATED BY <i>M. F. Griffin</i>	ORGANIZATION & PHONE # <i>CG 36</i>	DATE SUBMITTED <i>7/7/72</i>		
DOCUMENT AFFECTED				
TITLE <i>Medical Experiment</i>	MISSION <i>SMEAT</i>	BOOK EDITION <i>Final</i>	PAGE NUMBER <i>1-1 thru 1-11</i>	CONTROL NUMBER <i>004</i>

DETAIL CHANGE IN EXACT WORDING:

JUL 07 1972

complete rewrite (see attached rough)

TECHNICAL RATIONALE:

Not available at last publication
Results of ⁵th training session with crew

CPD DISPOSITION

CLASSIFICATION	BOOK MANAGER	BRANCH CHIEF	DIV CHIEF
FORMAT ☐	APPROVED ☒	APPROVED ☒	APPROVED ☒
TECHNICAL RECORD ☐	DISAPPROVED ☐	DISAPPROVED ☐	DISAPPROVED ☐
TECHNICAL INTERIM ☒	SIGNATURE <i>[Signature]</i>	SIGNATURE <i>[Signature]</i>	SIGNATURE <i>J. W. O'Neill</i>
TECHNICAL HOLD ☐	DATE <i>7/7/72</i>	DATE <i>7-7-72</i>	DATE <i>7-7-72</i>

CREW PROCEDURES FOR IN-CHAMBER BLOOD DRAWING (SMEAT)

-OPERATOR-

PREPARE WORK AREA

1. Remove the Anderson air sampler line from its stowed position, uncoil and extend the line to the Wardroom Area.
2. ^{Unstow}~~Destow~~ centrifuge and connect high power cable.
3. Hook empty trash bag to work table.
4. Remove ASP pouch from stowage locker (710) and place on work table.
5. Remove ASPER from ASP pouch and connect to Anderson air sampler line. Turn on and check for vacuum.
6. Remove scissors and tourniquet from ASP pouch and place on table.
(Remove log card from passout bag.)
7. ~~Remove passout bag and remove log card from bag~~
8. ~~Remove 1 sample bag from ASP pouch (bag contains 3 ASP packages, 3 syringes, 3 syringe needles [20 guage, 1 inch], 2 packages of 3 Zephirin swab,~~

~~OR~~

8. Remove from ASP pouch:

3 ASP Packages
3 Syringes (30 cc)
3 Hypodermic needles (20 guage, 1 inch)
2 Packages of ~~Zephirin~~ ^{zephiran} swabs (3 to a package)

PREPARE ASP AND SYRINGE

9. Open ASP package, remove the ASP, discard the needle, needle holder and package material.
10. Reverse the plasma cartridge in the ASP, insert cartridge into the body of the ASP until ~~feel~~ slight pressure ^{is felt}
11. Insert ASP into ASPER and evacuate (10-15 seconds). Withdraw ASP and place on work table.
12. Repeat above steps 9-11 with other 2 ASPs.
13. Open syringe ^{and} ~~the~~ needle packages and place needle in syringe. (Using holder, press needle on syringe firmly and twist; to remove holder pull straight out.)

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WARNING

~~*NOTE 1:~~ DO NOT remove needle cover until ready to draw blood.

WARNING

~~*NOTE 2:~~ SAVE needle cover; replace on needle prior to discarding used syringe.

*NOTE 3: BEVEL of needle should be lined up (using needle cover) with calibration marks of syringe.

BLOOD WITHDRAWAL

14. Seat subject at table.

CAUTION

15. Apply tourniquet. Venipuncture should be made within 1-2 minutes after applying tourniquet. If not, release tourniquet, allow circulation to be re-established (1-2 minutes) and proceed with tourniquet again.

zephiran

16. Swab venipuncture site with ~~Zephiran~~ swab.

17. Advise subject to open and close fist. Find prominent well-defined vein for venipuncture.

18. Steady vein by pressing below cleansed venipuncture site with thumb and forefinger of left hand.

19. Hold needle at acute angle with bevel up, insert needle into vein and withdraw 11 ml of blood. (on MICRO days - days 13, 28, 46 - draw 26 ml.)

20. Tell subject to release tourniquet when the syringe is half full (5 ml) and blood is flowing well.

If blood stops flowing when tourniquet is removed, instruct the subject to press his upper arm with his other hand.

WARNING

~~*NOTE~~ - DO NOT withdraw needle from vein until tourniquet is released.

⑥ 21. Remove syringe/needle from subject's vein and hand to observer. Immediately place ~~Zephiran~~ swab over venipuncture site and apply pressure. **zephiran**

WARNING

*NOTE - SUBJECT should maintain pressure over puncture site for a minimum of 3 minutes.

INSERT
//

SAMPLE PROCESSING - (~~As stated in SMEAT Procedures.~~)

SAMPLE STORAGE

41 22. Upon completion of centrifuge cycle removes ASPs (3) ~~and withdraw plasma cartridges to original position.~~

004

~~26~~ 25. Pass ASPs out through transfer lock in passout bag with log card.
42

CLEAN WORK AREA

004

CREW PROCEDURES FOR IN-CHAMBER BLOOD DRAWING (SMEAT)

-OBSERVER-

PREPARE WORK AREA

PREPARE ASP AND SYRINGE

BLOOD WITHDRAWAL

1. Hand tourniquet to Operator.
2. Open and hand ^{zephiran} ~~zephiran~~ swab to Operator.
3. Receive and dispose of used swab. Break syringe (pull plunger out 1/2 - 1 inch, push back in all the way).
4. Hand syringe/needle assembly with needle cover removed to Operator.
5. After syringe has been filled, hand ^{zephiran} ~~dry~~ swab to Operator.
6. Receive filled syringe from Operator.
7. Insert syringe needle into ASP septum and allow to fill (11 ml only)

CAUTION

*NOTE 1: DO NOT allow more than 11 ml of blood to enter ASP (Blood should be 2/3 of the way up the narrow top portion of the ASP when ASP held vertically).

days 13, 26, 46

*NOTE 2: On days when microbiology gets samples (✓), fill supplied vacutainer with 15 ml of blood after putting 11 ml into ASP.

8. Remove syringe from ASP. Invert ASP repeatedly for 1-2 minutes to insure mixing with anticoagulant.
9. Prepare fixed-cell sample by puncturing fixative vial septum with needle and inject 2 to 4 drops of blood (first and last sample days of mission only).
10. Log serial # of ASP (and blood sample vial when appropriate) onto card provided in passout bag. ~~Give voice indication of sample # and subjects name.~~
11. Replace needle cover, and dispose of syringe/needle assembly.
12. Place ASP into centrifuge slot.

CAUTION

*NOTE - Dummy ASPs will be provided and must be used to balance centrifuge in the event that less than 3 ASPs are successfully filled with blood.

004

DATE 6/14/72

OPR

OBS

Note: In order to properly preserve the samples each session must be completed as quickly as possible down to placing the samples in the freezer. One crewman (the prime operator) will draw samples from the other two crewmen while the other two alternately act as observer and subject. The prime operator will then act as subject while one of the other crewman (the alternate operator) will act as operator with the third crewman acting as the observer.

Prepare work area

Help prepare work area

- 1 Unstow vacuum hose and IMSS table
- 2 Remove ASP pouch from locker 710 and place on IMSS table
- 3 Unstow High Power cable and connect to centrifuge and power outlet
- 4 Hook empty trash bag to work table

1-3

M110

BLOOD SAMPLING

M110

BLOOD SAMPLING

OBS

- 6 Open vacuum valve and check for vacuum.
- 7 Remove scissors and tourniquet from ASP pouch
- 8 Remove Zephiran swab packets (2)
- 9 Remove ~~bedding swabs (3)~~ and ASP swabs (3) ^{pouch} tourniquet and ASP packages (3) from pouch
- 10 Remove ~~ASP~~ syringes (3) and needle assemblies (3) from ~~ASP~~ ^{pouch} pouch
- 11 Remove ASPER from storage location ~~(BED)~~ and connect to vacuum source

Prepare

Remove ASP, and Syringe

- 10 Open ASP pkg, remove ASP, discard needle,
- 11 Remove ASP, insert into ASPER, ~~and evacuate needle holder and pkg mat'l~~
Reverse plasma cartridge in ASP and insert ASP into ASPER to evacuate (10-15 sec)
- 12 Repeat 11 with other two ASPs
- 13 Open syringe and needle packages and
- 14 Place needle on syringe (3)

Blood Withdrawal

14

- 14 Seat subject at table

Blood withdrawal

- 1 Hand tourniquet to Operator

1-4

DATE 6/14/72

DATE 6/14/72

OPR

- 15 Apply tourniquet
Note: venipuncture should be made within
1-2 min after applying tourniquet
- 16 Swab venipuncture site with beta-
dine swab zephiran swab
- 17 Advise subject to open and close
fist. Find prominent well
defined vein for venipuncture
- 18 Steady vein by pressing below
cleansed venipuncture site with
thumb and fore finger of left
hand
- 19 Hold needle at acute angle with
bevel up, insert needle into
vein and withdraw 11 ml of
blood (on MICRO sample days, days - , - , - , withdraw - ml)
- 20 Tell subject to
Release tourniquet (by observer)
Note: DO NOT withdraw needle from
vein until tourniquet has been
released

OBS

- 2 Open and hand ^{zephiran} betadine swab
to Operator
- 3 Receive and dispose of used
swab
- 4 Hand syringe/needle assembly
with needle cover removed
to Operator
- 5 After syringe has filled,
~~release tourniquet on~~
subject and hand ~~day~~ swab
zephiran swab
to Operator

1-5

700

OPR

- 21 Place zephiran swab over venipuncture site,
- 22 Remove syringe/needle from subject's vein and ~~hand to observer~~ immediately place dry absorbent material over venipuncture site and apply pressure. Hand syringe to Observer

Note: Subject should maintain pressure over puncture site for a minimum of 3 minutes.

Sample Processing

- 22 Check that power switch is in OFF position on centrifuge
- 23 Open lid of centrifuge
- 24 Loosen nut that holds head cover in place - raise head cover
- 49 Rotate head cover to expose centrifuge head

INSERT

OBS

- 6 Receive filled syringe from Operator, shake to mix anti-csag
- 7 Prepare fixed-cell sample by puncturing fixative vial septum with needle and inject 2 to 4 drops of blood (first and last sample days of mission only).
- 8 Insert syringe needle into ASP septum and allow to fill
- 9 Log ASP S/N onto card provided in pass-out bag
- 10 Remove syringe from ASP, replace needle cover, and dispose of syringe/needle assembly
- 11 Turn vacuum off, remove ASPER and stow vacuum hose
- 12 Return ASPER, scissors and tourniquet to pouch
- 13 Discard trash bag
- 14 Stow pouch and IMSS table
- 15 Voice log information from log card

DATE 6/14/72

If automatic timing of the centrifuge does not operate or if it is desired to use manual timing, the following steps should be taken after step 18.

~~MODE - MANUAL~~

30. Place auto-manual switch in manual position.

~~MANUAL MODE - SEPARATE~~

31. Place manual mode switch in separate position.

~~CIRCUIT BREAKER - CLOSE (right)~~

32. Turn circuit breaker on and then turn power on.

~~POWER - ON~~

33. Time separation mode for a minimum of 30 minutes and then place manual mode switch in transfer mode. ~~MANUAL MODE - TRANSFER~~

34. Time transfer mode for a minimum of 5 minutes and then turn power off. ~~POWER - OFF~~

~~CIRCUIT BREAKER - OPEN (left)~~

35. Wait a minimum of 5 minutes before opening centrifuge lid and continuing experiment with step 22. 33

~~33~~

INSERT A

100

DATE 6/14/72

OPR

OBS

- 25 Place three ASP's in head in appropriate slots
- 26 Close head cover and tighten nut finger tight
- 27 Close centrifuge lid
- 28 ~~Connect high power extension cord from WPD to centrifuge~~
- 29 ~~Test lights with light test switch on control panel~~
- 30 ~~Replace any lights that are not operating~~
- 31 ~~28 ~~Circuit Breaker~~ ON~~
- 32 ~~Place auto manual switch in auto position~~ MODE - AUTO
- 33 ~~Turn power on~~ POWER - ON

Stick Malf procedure here.

INSERT A

720

OBS

OPR

37 (When end of sequence lights comes on (45 minutes): ~~turn power off,~~
38 ~~and open centrifuge lid~~
39 ~~POWER OFF~~
40 ~~CIRCUIT BREAKER - open (left)~~
41 ~~Loosen head cover nut and rotate head cover~~

42 Remove ASP's from head

Sample Storage

43 Upon completion of centrifuge cycle removes ASP's (3) and withdraw plasma cartridges to original position

44 Attach sample tags to appropriate samples as per color code

45 Stow ASP's (3) in urine freezer tray or pass out through transfer lock in pass-out bag with log card inside bag

Clean Work Area

16 Disconnect and stow power cable

1-8

DATE 6/14/72

STOP

Rec'd 7/5/72
DSS

Constraints

Exercise - No more than 100 BTU/Hr
p (no strenuous exercise)
for one hour prior to
sampling

Fasting - 8 hours (can have water)

Changes in crew health status
which may influence or
be influenced by blood
sampling will require real-time
decision by the medical
officer.

(24)

CREW PROCEDURES CHANGE REQUEST

INITIATED BY <i>M. F. Griffin</i>	ORGANIZATION & PHONE # <i>CG 36-4637</i>	DATE SUBMITTED <i>7/5/72</i>
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DOCUMENT AFFECTED

TITLE <i>Medical Exptsc/L</i>	MISSION <i>SMEAT</i>	BOOK EDITION <i>Reference</i>	PAGE NUMBER <i>2-5</i>	CONTROL NUMBER <i>005</i>
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DETAIL CHANGE IN EXACT WORDING:

JUL 07 1972

JUL 07 1972

Page 2-5, step 1

Change "Setup TV camera" to read "Set up portable TV camera if scheduled in timeline"

TECHNICAL RATIONALE:

Clarifies procedure.

CPD DISPOSITION

CLASSIFICATION	BOOK MANAGER	BRANCH CHIEF	DIV CHIEF
FORMAT ☐	APPROVED ☒	APPROVED ☒	APPROVED ☒
TECHNICAL RECORD ☐	DISAPPROVED ☐	DISAPPROVED ☐	DISAPPROVED ☐
TECHNICAL INTERIM ☒	SIGNATURE <i>Marion L. Griffin</i>	SIGNATURE <i>J. Smith</i>	SIGNATURE <i>J.W. O'Neil</i>
TECHNICAL HOLD ☐	DATE <i>7/6/72</i>	DATE <i>7-7-72</i>	DATE <i>7-7-72</i>

CREW PROCEDURES CHANGE REQUEST

INITIATED BY <i>M.F. Griffin</i>	ORGANIZATION & PHONE # <i>CG 36-4637</i>	DATE SUBMITTED <i>7/6/72</i>
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DOCUMENT AFFECTED				
TITLE <i>Medical Expts</i>	MISSION <i>c/l SMEAT</i>	BOOK EDITION <i>Reference</i>	PAGE NUMBER <i>2-3, 2-6</i>	CONTROL NUMBER <i>006</i>

DETAIL CHANGE IN EXACT WORDING:

JUL 07 1972

Page 2-3

Following step 34 instruction, add step 35 to read as follows: "35 Voice record all log data"

Page 2-6

Following step 22 instruction, add step 23 to read as follows: "23 Voice record all log data"

TECHNICAL RATIONALE:

Near real-time data are required to support M071/M073 and during the dry run the crew had to be reminded to voice out the data.

CPD DISPOSITION

CLASSIFICATION	BOOK MANAGER	BRANCH CHIEF	DIV CHIEF
FORMAT ☐	APPROVED ☒	APPROVED ☒	APPROVED ☒
TECHNICAL RECORD ☐	DISAPPROVED ☐	DISAPPROVED ☐	DISAPPROVED ☐
TECHNICAL INTERIM ☒	SIGNATURE <i>M. F. Griffin</i> <i>for Tom George</i>	SIGNATURE <i>J. Smith</i>	SIGNATURE <i>J. W. O'Neil</i>
TECHNICAL HOLD ☐	DATE <i>7/6/72</i>	DATE <i>7-7-72</i>	DATE <i>7-7-72</i>

DOCUMENT AFFECTED				
TITLE MEDICAL EXPTS	MISSION SMEAT	BOOK EDITION REFERENCE	PAGE NUMBER 4-4, 4-6, 4-7	CONTROL NUMBER 007

DETAIL CHANGE IN EXACT WORDING:

ADD STEP 15:

JUL 07 1972

15 VOICE RECORD LOGGED READING

ADD STEP AT END OF PAGE 4-6:

VOICE RECORD LOGGED READING

ADD STEP AT END OF PAGE 4-7:

VOICE RECORD LOGGED READING

TECHNICAL RATIONALE:

SEE ATTACHED SCO

CPD DISPOSITION			
CLASSIFICATION	BOOK MANAGER	BRANCH CHIEF	DIV CHIEF
FORMAT ☐	APPROVED ☒	APPROVED ☒	APPROVED ☒
TECHNICAL RECORD ☐	DISAPPROVED ☐	DISAPPROVED ☐	DISAPPROVED ☐
TECHNICAL INTERIM ☒	SIGNATURE <i>L.V. Ramon for Tom George</i>	SIGNATURE <i>J. Smith</i>	SIGNATURE <i>J.W. O'Neill</i>
TECHNICAL HOLD ☐	DATE 7-7-72	DATE 7-7-72	DATE 7-7-72

SMEAT CHANGE ORDER

1. TITLE

SMEAT MEDICAL CHECKLIST UPDATE

2. NUMBER

3. APCO NUMBER

4. STATEMENT OF CHANGE

THE 1987 CHECKLISTS IN SECTION 4 SHOULD CALL OUT CREW VOICE RECORD OF THE DATA ACQUIRED DURING THE PERFORMANCE.

5. REASON FOR CHANGE

DURING SMEAT AND SKYLAB THE CREW WILL USE THE VOICE RECORDER TO AID IN LOGGING DATA. THE CL LOOP DURING SMEAT PROVIDES THE CAPABILITY FOR THIS FUNCTION. ALTHOUGH SPECIFIC MEASUREMENTS ARE NOT REQUESTED, THIS READOUT WILL BE EXERCISED AS THOUGH IT WAS A REQUEST.

6. DESCRIPTION OF CHANGE (List sequences and/or other sections of procedure to be changed and actual changes.)

PAGE 4-3 - STEP 9/10 - PROVIDE VOICE RECORD

4-6 - UNIDENTIFIED - " " "

4-7 - " - " " "

7. AFFECTED DOCUMENTS

SMEAT MEDICAL CHECKLIST

8. INITIATOR

J. A. McLean

(107)

MINOR CHANGE APPROVAL

MAJOR CHANGE APPROVAL

TD

CHAIRMAN, TOMC

CAP COMM

EO-MO

FLIGHT SAFETY OFFICE