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**FLIGHT SURGEON EMERGENCY KIT DEVELOPED
AT THE USAF SCHOOL OF AEROSPACE MEDICINE**

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Flight Surgeon Emergency Kit was developed to provide a standard, light-weight, compact, medical kit for use by flight surgeons in their travels. A prototype kit was assembled in-house to meet the design requirements. Initial Development Test and Evaluation (DT&E) indicated a need for minor changes. The modified prototype successfully completed DT&E. Twenty-five (25) prototype kits were assembled and made available to volunteer Air Force, Army, and Navy flight surgeons for Operational Test and Evaluation (OT&E). The prototypes met		

20. ABSTRACT (Continued)

the design objectives and were unanimously endorsed by the flight surgeons participating in the OT&E. It was recommended that the kits be federally stock listed or, in lieu of stock listing, samples and literature be made available to all flight surgeons as a standard for routine use.

FLIGHT SURGEON EMERGENCY KIT DEVELOPED AT THE USAF SCHOOL OF AEROSPACE MEDICINE

INTRODUCTION

The present flight surgeon's kit is large, bulky, poorly organized, and infrequently used. As a result, most flight surgeons on their own initiative design a medical kit for their own use. This procedure has produced a vast array of nonstandard medical kits, changing as individual flight surgeons depart the service and/or transfer to other assignments. Because of these problems, a resident in the USAFSAM Aerospace Medicine Program initiated a project to design a standard, lightweight, and compact medical kit for use by flight surgeons.

EQUIPMENT DESCRIPTION

The flight surgeon emergency kit is designed around its container, a federally stock-listed attache case (FSN 8460-782-6726) constructed of black molded plastic, 18 x 12 $\frac{1}{4}$ x 5 inches. The kit weighs approximately 30 pounds, complete with selected medical equipment and supplies (Fig. 1). (See Appendix A for list of contents.)

METHOD

Development of this flight surgeon emergency kit was an in-house effort, with all supplies purchased and prototypes fabricated using existing resources. A federally stock-listed attache case was selected as the container. Special consideration was given to weight and bulk of medical equipment/supply items procured to assure their compatibility with the container. Emphasis was placed on organizing the contents as the kit was assembled. Emergency medical and surgical items were placed so that they could be readily located for use. Initial Development Test and Evaluation (DT&E) indicated a need for minor changes in design and location of items. The kit was modified and follow-on DT&E was successful. Twenty-five prototype flight surgeon emergency kits were assembled and made available to volunteer Air Force, Army, and Navy flight surgeons for Operational Test and Evaluation (OT&E).

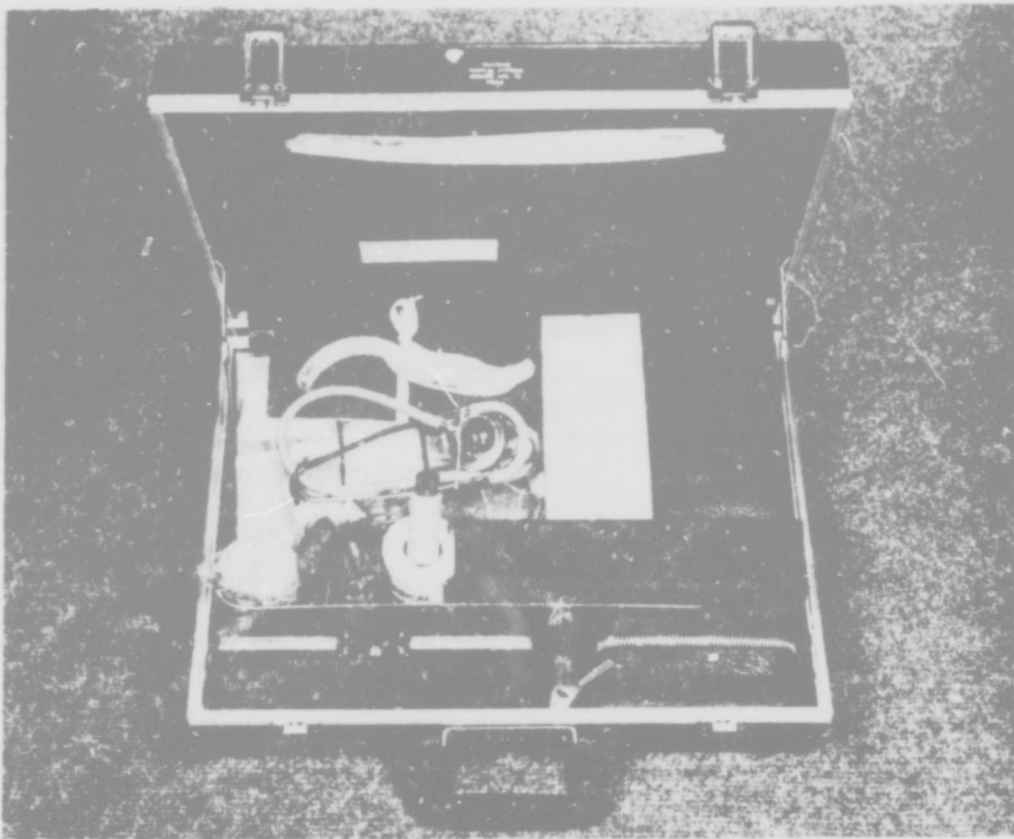


Figure 1. Flight surgeon emergency kit.

RESULTS

Approximately one year after the prototype kits were sent to volunteer flight surgeons for OT&F, comprehensive questionnaires were mailed to each participant. Twenty completed questionnaires were returned and all participants responded that enough capability could be provided in a kit this size to meet their needs. Ninety-five percent agreed that a need existed for a standardized, federally stock-listed, emergency kit of a convenient size such as the attache kit; 65% indicated that the kit, as supplied, met their needs; while the remaining 35% indicated that the kit probably met their needs. While 5% of the responses stated that space in

the kit was insufficient for items necessary to treat conditions which threaten mission accomplishment, but not true emergencies, an additional 60% stated that there was sufficient room to meet this need. Eighty percent of the testing personnel indicated that the need did exist for the kit to contain those "sick call" type items supplied in the kit; if it had not contained those items, they would not have endorsed the prototype. Approximately 30% of the responding flight surgeons stated that they had carried the prototype kit on multiple occasions but did not have the opportunity to use it.

DISCUSSION

As might be expected, since the kit was evaluated by 25 medical officers, each with different backgrounds and training, each returned questionnaire included some comment suggesting a minor change and/or organization of contents in the prototype kit. However, most of them did feel that the kit was adequate to meet the need for a flight surgeon's kit, of a size frequently carried and yet stocked to meet the demands of the common life-threatening medical/surgical emergencies. While a further reduction in weight of the kit would be desirable, it was acknowledged that the weight and size of the prototype tested was acceptable and certainly preferred over the present knickerbocker flight surgeon's kit.

CONCLUSIONS

The Flight Surgeon Emergency Kit was designed to meet an operational requirement for a standard, lightweight, and compact medical kit for use by flight surgeons while away from fixed medical facilities. No equipment in the present inventory fulfills this requirement. This prototype met the design objectives and was endorsed by flight surgeons of three Services during Operational Test and Evaluation; they recommended that the kits be federally stock-listed. In lieu of stock listing, samples and literature should be made available to all flight surgeons as a standard for routine use.

APPENDIX A

CONTENTS, FLIGHT SURGEON EMERGENCY KIT

	<u>FSN</u>	<u>#/Kit</u>
Dispatch case	8460-782-6726	1
*Ampule box	8115-223-3493	1
*Instrument roll	None	1
*Folder	None	1
*Box #1	8115-299-8744	1
*Box #2	8115-299-8744	1
*Box #3	8115-299-8744	1
*Box #4	8115-223-3493	1
*Bottle set, physician's satchel	6515-308-8235	1
Stethoscope	6515-935-4088	1
Otoscope/ophthalmoscope	6515-550-7199	1
Sphygmomanometer, aneroid	6515-371-3100	1
Splint, wire-ladder	6515-373-2100	1
Adhesive tape, surgical	6510-203-5000	1
Betadine solution	6505-914-3593	1
Bandage, muslin	6510-201-1755	4
Bandage, cotton-elastic 4"	6510-935-5822	1
Steri-drape	6530-269-3597	1
Reflex hammer	6515-340-6700	1
Sodium chloride inj, 250 ml	6505-975-0607	1
Pulitzer bag	6515-308-5400	1
Lidocaine, 2%, 20 cc	6505-598-6117	1
Bandage, gauze, roller 1"	6510-200-3985	1
Bandage, gauze, roller 3"	6510-200-5000	1
Dressing, first-aid, field	6510-201-7430	1
Vinyl treatment glove-sterile	6515-226-7692	2
Sponge, 4"x4" cotton	6510-074-4579	4
Airway, child-adult	5615-660-0046	1
IV inj set, pediatric	6515-958-7793	1
Recommended inclusions:		
Prescription pad	None	1
Dressing, field, small	6510-201-7435	2

*Contents listed on following pages.

Preceding page blank

AMPULE BOX	FSN	#/Box
Spectacle mailing box, small (or leather ampule case)	8115-223-3493 None	1
Valium, 10 mg	6505-375-8955	2
Benadryl, 50 mg	6505-685-5512	2
Epinephrine, 1:1000	6505-299-8760	3
Apresoline (hydralazine HCl), 20 mg	6505-685-5425	2
Digoxin, 0.50 mg	6505-531-7761	2
Compazine, 10 mg	6505-656-1610	2
Aminophylline inj, 250 mg	6505-105-9500	1
Potassium chloride, 10 cc	6505-299-9505	1
Ammonia inhalant	6505-106-0875	1
Ampule file	None	1

INSTRUMENT ROLL	FSN	#/Roll
Instrument roll	None	1
Hemostat, straight	6515-334-5600	2
Hemostat, curved	6515-334-4900	2
Scissors, blunt-sharp	6515-365-1820	1
Scalpel handle, #3	6515-344-7880	1
Needle hypodermic, 13 gage	6515-348-7350	1
Needle hypodermic, 22 gage	6515-299-9640	1
Tissue tweezer	6515-337-9900	1
Surgical blade, #11	6515-660-0010	2
Surgical blade, #15	6515-660-0008	2
Suture, silk 3-0, cutting	6515-865-2687	2
Suture, chromic 4-0, taper	6515-935-4035	1
Suture, nylon 5-0, cuticular	6515-966-3735	1

FOLDER, MISCELLANEOUS	FSN	#/Folder
Tube, Levin 12 fr	6515-935-4063	1
Vinyl exam glove	6515-226-7692	1
Scissors, blunt-sharp	6515-365-1820	1
Gauze, 4"x4" nonsurgical	6510-074-4579	2
Suture, nylon 5-0, cuticular	6515-966-3735	1
Suture, chromic 4-0, taper	6515-935-4035	1
Suture, silk 3-0, cutting	6515-865-2687	1

Recommended additions:		
Band-Aids	6510-597-7468	4

BOX #1	FSN	#/Box
Spectacle mailing box, large	8115-299-8744	1
Cannula, tracheotomy, size 4	6515-663-1550	1
Atropine sulfate inj, 25 cc	6505-299-9673	1
Sodium bicarbonate inj, 50 cc	6505-530-6895	1
Dextrose inj, 50%	6505-116-4800	1
Intravenous inj set (ped)	6515-089-3433	1
Catheter, urethral, rubber (30 cc)	6515-317-5500	1
Petrolatum gauze	6510-202-0800	1
Water purification tablets, iodine	6850-985-7166	1
Razor, surgical preparation	6515-926-2089	1
Tongue depressors, wood	6515-324-5500	6
1-cc tuberculin syringe	6515-982-4206	2
10-cc disposable syringe	6515-754-0412	1
Finger cots	6515-935-1194	4

BOX #2 (EENT)	FSN	#/Box
Spectacle mailing box, large	8115-299-8744	1
Benzedrex inhaler	6505-261-7251	1
Afrin (oxymetazoline HCl)	6505-869-4177	1
Tetracaine HCl ophthalmic	6505-582-4737	1
Gauze, absorbent, 5 yds	6510-533-2150	1
Suture, 6-0 silk, 17 strands	6515-982-7505	1
Politzer tip & irrigation tip w/tubing	6515-308-5400	1 ea
Eyelid retractor	6515-356-1000	1
Tongue depressor, wood	6515-324-5500	2
Sterile eye pad	6510-299-8341	4
Culture swab	6515-890-1475	2
Ear plugs, Silaflex	6515-135-2612	6
Ear curette	6515-322-0770	1
ENT tweezer	6515-333-6600	1

Recommended additions:

Cortisporin Otic gtt	6505-754-2436	1
Thermometer, oral	6515-299-8258	1
Neosporin, ophthalmic	6505-890-1299	1
Fluorescein applicator	6505-582-5434	3

BOX #3 (INJECTABLES)

	FSN	#/Box
Spectacle mailing box, large	8115-299-8744	1
2% Lidocaine HCl, 20 cc	6505-598-6117	1
Compazine, 10 mg	6505-656-1610	1
Aramine, 10 cc	6505-753-9601	1
Solu-Cortef, 100 mg	6505-753-9609	1
Vistaril, 10 cc	6505-052-1367	1
Talwin (pentazocine lactate inj)	6505-689-5513	1
Dilantin, 250 mg	6505-823-7985	1
Water for injection, 5 cc	6505-543-4048	3
Calcium gluceptate inj, 5 ml	6505-559-5143	3
Ammonia inhalant solution	6505-106-0875	3

Recommended additions:

Phenergan inj (Promethazine HCl)	6505-680-7352	2
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BOX #4

	FSN	#/Box
Spectacle mailing box, small	8115-223-3493	1
2.5-in. cc syringe	6515-889-3564	2
30-cc syringe	6515-724-4603	1
1.5-in. 20g needle, disposable	6515-754-2836	4
3-in. 25g needle, disposable, 5 ea	6515-655-5751	4
Alcohol preps	6510-786-3736	6
Steri-Strip	6510-913-5874	1

BOTTLE SET

	FSN
Physician's bottle satchel	6515-308-8235
Actifed	6505-753-9615
Benadryl	6505-116-8350
Donnatal	6505-721-9121
Probanthine	6505-584-0398
Bonine	6505-926-2111
Aspirin	6505-100-9985
Erythromycin	6505-662-9790
Tetracycline	6505-206-7302
Penicillin	6505-656-1612
Titralac	6505-850-1658
Nitroglycerin	6505-619-8620
Pyridium	6505-582-5346
Gantrisin	6505-146-4425
Ethacrynic acid	6505-834-0473
Hydrodiuril	6505-889-7928
Lomotil	6505-913-5872
Parvon 65 mg	6505-958-2364