Abbreviated Operational Test Report

Rigid Immobilization System for Extremities and Individual First Aid Kit Generation II

Customer Test

Produced by the
U.S. Army Medical Department Board
U.S. Army Medical Department Center and School
Health Readiness Center of Excellence

USAMEDDBD PROJECT 17–18 JANUARY 2019

U.S. ARMY MEDICAL DEPARTMENT BOARD

ABBREVIATED OPERATIONAL TEST REPORT

RIGID IMMOBILIZATION SYSTEM FOR EXTREMITIES AND INDIVIDUAL FIRST AID KIT GENERATION II

CUSTOMER TEST

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BUSTAMANTE.MARC.1131301380 Digitally signed by BUSTAMANTE.MARC.1131301380 Date: 2019.01.11 08:11:46 -06'00'

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From – To)*
11–01–2019	Abbreviated Operational Test Report (AOTR)	11–14 December 2018

4. TITLE AND SUBTITLE
Abbreviated Operational Test Report for the Rigid Immobilization System for Extremities and Individual First Aid Kit Generation II

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
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5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Army Medical Department Board
ATTN: MCCS–MM, 2377 Greeley Road, Suite T, Building 4011
JBSA Fort Sam Houston, Texas 78234–7584

8. PERFORMING ORGANIZATION REPORT NUMBER
USAMEDDBD Project 17–18

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Medical Materiel Development Activity, Non-Medical Systems, Medical Support Systems, Program Manager Office (MSS–PMO/Mr. Jaime Lee), 1240 Rocky Springs Road, Fort Detrick, MD 21702–5009

10. SPONSORING/MONITORING ACRONYM(S)
USAMMDA

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

11. SUPPLEMENTARY NOTES

12. DISTRIBUTION/AVAILABILITY STATEMENT
Distribution limited to U.S. Government agencies only, test and evaluation, January 2019. Other requests for this document must be referred to President, U.S. Army Medical Department Board, ATTN: MCCS–M, 2377 Greeley Road, Suite T, Building 4011, JBSA Fort Sam Houston, Texas 78234–7584.

13. SUPPLEMENTARY NOTES

14. ABSTRACT
This AOTR documents the key observations and recommendations from the Rigid Immobilization System for Extremities (RISE) and Individual First Aid Kit Generation II (IFAK Gen II) Customer Test. USAMEDDBD conducted the CT from 11 through 14 December 2018 at in the Medical Simulation Training Center, Schofield Barracks, Hawaii. This report is a pre-decisional document and is not the USAMEDDBD evaluation report for the RISE and IFAK Gen II. The RISE and IFAK Gen II is an acquisition category III system and is not on the Office of the Secretary of Defense Test and Evaluation Oversight List. USAMEDDBD conducted the RISE and IFAK Gen II to collect data on the capability of the RISE to stabilize a casualty's injuries and the medical items available for the Soldiers' Individual First Aid Kit Generation II.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Gary Cabigon
UNCLASSIFIED/ FOR OFFICIAL USE ONLY	UNCLASSIFIED	UNCLASSIFIED	SAME AS REPORT	36	19b. TELEPHONE NUMBER *(Include area code)* (210) 295–9950

Standard Form 298 (Rev. 8/98)
Prescribed by ANSI Std. Z39-18

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RIGID IMMOBILIZATION SYSTEM FOR EXTREMITIES AND INDIVIDUAL FIRST AID KIT GENERATION II

CUSTOMER TEST

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RIGID IMMOBILIZATION SYSTEM FOR EXTREMITIES AND INDIVIDUAL FIRST AID KIT GENERATION II

CUSTOMER TEST

1. INTRODUCTION. This abbreviated operational test report (AOTR) documents the key observations and recommendations from the Rigid Immobilization System for Extremities (RISE) and Individual First Aid Kit Generation II (IFAK Gen II) Customer Test (CT). The U.S. Army Medical Department Board (USAMEDDBD) conducted the CT from 11 through 14 December 2018 at the Medical Simulation Training Center (MSTC), Schofield Barracks, Hawaii. This report is a pre-decisional document and is not the USAMEDDBD evaluation report for the RISE and IFAK Gen II. The RISE and IFAK Gen II is an acquisition category III system and is not on the Office of the Secretary of Defense Test and Evaluation Oversight List.

a. Purpose. USAMEDDBD conducted the RISE and IFAK Gen II CT to collect data on the capability of the RISE to stabilize a casualty's injuries and the IFAK Gen II to provide casualty point of injury (POI) medical interventions for Soldiers who need immediate medical attention.

(1) USAMEDDBD will provide the CT data as input to a decision authority on whether to exercise a contract option to purchase additional systems for contingency operations.

(2) USAMEDDBD will use the data to support an independent evaluation of customer test adequacy and RISE and IFAK Gen II operational effectiveness and suitability as employed by the Army to support all deployed units in accomplishing the mission.

b. Requirement. Currently, the fielded vehicle medical kit has limited class VIII medical supplies for resupply of unit Soldiers' IFAK Gen II. The RISE will be incorporated into the mounted standardized vehicle medical kit in the back of vehicles while in a convoy configuration.

2. SYSTEM DESCRIPTION.

a. The RISE and the IFAK Gen II (see figures 1 and 2) are ruggedized, portable, and able to be carried by a Soldier in configurations as dictated by unit standard operating procedures. The RISE and the IFAK Gen II medical supplies were accessible for use in performing buddy-aid and self-aid as required to meet the needs of casualties.

b. The RISE was used for the immediate stabilization of simulated casualties, who exhibited a notional broken wrist, foot, lower or upper leg area, arm, or pelvic injuries, for transport to the next higher medical treatment facility or Role of Care. The RISE provides rigid immobilization for both the upper and lower extremities; it has the ability to lock, into place, a straight splint up to 24 inches, has the ability to fold in upon itself and to become shorter in length, is packaged to 4-inch length x 6.375-inch width x .2-inch depth, and it did not exceed two ounces in weight. It uses plastic ties or adhesive tape for fastening a splint securely to a casualty.

c. The IFAK Gen II was used by Soldiers in performing medical interventions on a simulated casualty receiving immediate medical attention to stabilize a notional pelvic injury for transport to the next higher medical treatment facility or Role of Care. The IFAK Gen II had an inside pouch that was of a clear plastic design to ensure supplies were easily visible. The IFAK Gen II has a low-profile, is easy to attached onto the LBV or Modular Lightweight Load-carrying Equipment (MOLLE) system, has multiple pouches for standard medical supplies, and has the ability to hold class VIII medical supplies. The tourniquet pouches were easily accessible when the IFAK Gen II was configured on a Soldier's LBV or MOLLE and was accessible for Soldiers even when they wore their combat gloves or CBRN gloves. The RISE was also easily accessible to users whether or not they wore combat gloves, and the RISE was easily repacked and was able to be stowed in the IFAK Gen II. Additionally, the pouch was durable.

Figure 1. Rigid Immobilization System for Extremities.

Figure 2. Individual First Aid Kit Generation II.

3. TEST DESIGN.

a. Test Context.

(1) Test Schedule. The RISE and IFAK Gen II CT consisted of training/familiarization and data collection. Table 1 shows the test schedule.

TABLE 1. TEST SCHEDULE

Event	Date
Training on RISE	11 December 2018
Familiarization on IFAK Gen II	11 December 2018
CT Start	11 December 2018
CT End	14 December 2018

(2) Test Players. The CT players consisted of 27 Soldiers with non-specific Military Occupational Specialties (MOS) attending the Combat Lifesaver Course (CLC). This is a deviation from the initial CT plan that previously identified 40 CT players. Table 2 shows the personnel who participated as test players.

TABLE 2. TEST PLAYERS

Tasked CT player title	MOS[a]	Test role	Quantity
Soldier	Non-Specific	CT caregiver/casualty	27
MOS[a] = Military Occupational Specialty			

(3) Tactical Context. The USAMEDDBD conducted the CT from 11 through 14 December 2018 at the MSTC. The 27 Soldiers who participated were from various 25th Infantry Division units attending the CLC. The USAMEDDBD test personnel is hereafter referred to as USAMEDDBD CT team in this document, and the USAMEDDBD lead test officer is hereafter referred to as the primary USAMEDDBD CT officer. The 27 Soldiers, hereafter referred to as CT players, represented the typical users of the RISE and the IFAK Gen II. The CT players served as medical intervention providers, hereafter referred to as caregivers, and as simulated casualties.

(a) Prior to arrival of the CT players, the USAMEDDBD CT team conducted preliminary testing in accordance with essential characteristics 8, 9, and 11 that were identified in the RISE and IFAK Gen II Customer Test Plan Memorandum dated 3 October 2018. The RISE measured 4 inches in lenghth by 6.375 inches width by .2-inches in depth; it weighed 1.8 ounces; and, according to the informaiton provided, it is made of recyclable material to reduce carbon footprint.

(b) On day one, the 27 Soldiers were divided into 6 groups, which were identified as CT Groups 1 through 6. CT Groups 1 through 4 each consisted of four CT players and Group 5 had 6 CT players; CT Groups 1 through 5 were designated as caregivers. CT Group 6 consisted of five CT players, who were designated as simulated casualties for CT Groups 1 through 5 at each of the designated, respective CT lanes. CT Groups 1 through 5 rotated through each of the lanes as they provided medical interventions to the simulated casualties, who portrayed various simulated injuries; the CT players performed medical interventions while wearing their combat gloves or CBRN gloves. The CT players had the opportunity to assess the replenishment of medical supplies as well as their access to the medical intervention items of the IFAK Gen II. Five lanes were used during the CT (see figure 3), with each lane identified as a station. Each station contained the preset medical intervention scenarios that the caregivers of CT Groups 1 through 5 were tasked to complete. Upon completion of each lane, the caregivers rotated through the next lane station as they worked through as many of the five specific medical interventions they could using the RISE.

(c) On day two, CT Groups 1 through 5 continued to rotate through the lanes and completed those they had not completed on day one. Next, a CT player from each of CT Groups 1 through 5 (for a total of five CT players) were designated to serve as simulated casualties. The five CT players in CT Group 6, who previously served as the simulated casualties, then served as the caregivers and rotated through each lane station as they conducted the medical interventions. The Soldiers who had completed their rotations completed the CT player surveys for the RISE and the IFAK Gen II. Once CT Group 6 completed the caregiver role in the five lane stations, they, along with the one CT player each from CT Groups 1 through 5 who served as simulated casualties, completed the CT player surveys for the RISE and the IFAK Gen II.

Figure 3. Test Lanes Lined Using Engineering Tape.

b. Test Conduct.

(1) The CT players received 1.5 hours of training and familiarization from the vendor instructor on the RISE and the IFAK Gen II. After completing the training and familiarization, the CT players were assigned a Personal Identification Number (PIN) and were divided into CT Groups designated as CT Groups 1 through 6. The CT players were then instructed to verify that their issued IFAK Gen II (and one RISE as part of each kit) was attached on their LBVs or MOLLEs. The CT players were then directed to move to the assigned locations to set up and to make any desired changes for preparation of the equipment configuration for operational field environment testing. The CT players began execution of the test event in locating the simulated casualty, performing caregiver medical interventions, and stabilizing the simulated casualty. Upon reaching the test area and locating the simulated casualty, the CT players were provided lane scenarios written on instruction cards that identified a simulated casualty with a specified type of injury. The CT players then executed the specified medical interventions using the simulated casualty's IFAK Gen II items and the RISE. The USAMEDDBD CT team verified completion of caregiver medical interventions and then instructed the CT players to remove the medical intervention items and to repackage the RISEs and store them back into the IFAK Gen IIs in preparation for the next lane. Once completed, the CT players were directed to move to the next station.

(2) The CT players continued to perform operational scenarios to assess the RISE and the IFAK Gen II. The CT players from CT Groups 1 through 5 served as caregivers and provided medical interventions as they rotated from station to station while the CT players from CT Group 6 served as the simulated casualties. When CT Groups 1 through 5 completed rotating through all lane stations, one CT player each from CT Groups 1 through 5 then served as simulated casualties for CT Group 6. The five CT players in CT Group 6 served as caregivers, rotated through each lane station, and conducted medical interventions. The remaining seventeen CT players from CT Groups 1 through 5 completed CT player surveys for the RISE and the IFAK Gen II as CT Group 6 conducted the caregiver role through the lane stations.

Once CT players from CT Group 6 completed conducting the medical interventions in each of the lane stations, the five CT players from CT Group 6, along with the five CT players who served as simulated casualties from CT Groups 1 through 5, conducted medical interventions wearing CBRN gloves for all five injuries. Upon completion of the CBRN gloves portion of the CT, the CT players were administered surveys for the RISE and the IFAK Gen II. Upon completion of CT player surveys, the USAMEDDBD CT team reviewed the CT player surveys for completeness, readability, context, and flow of thought. The primary USAMEDDBD CT officer conducted an after action review (AAR) for the RISE, which was followed by a separate AAR for the IFAK Gen II. Afterward, the USAMEDDBD CT team secured all test items. The CT players inventoried the test items (RISEs and IFAK Gen IIs), stowed the RISEs inside of the IFAK Gen IIs, and packed all test items. The MSS–PMO previously decided that the used test items would remain with the MSTC folks to be used as training aides. At the conclusion of the event, data provided from the completed CT Player 1 Survey for the RISE and the completed CT Player 2 Survey for the IFAK Gen II, to include responses, comments, observations, and AAR comments, were input into an Excel spreadsheet format, analyzed, and the results were included in this CT AOTR.

4. TEST LIMITATIONS AND IMPACTS. Table 3 shows the CT limitations.

TABLE 3. TEST LIMITATIONS

Limitation	Impact	Mitigation strategy
The CT daily operations were constrained in order to accommodate the CLC program of instruction in a non-interference basis.	Not all planned rotations could be accomplished within the time provided each day. (Low risk)	Data was collected at the start of each CT test event whenever CT players were available to participate. (Low risk)
Limited accessibility to CT players at the conclusion of CLC daily classes.	Delay in starting each day on a set timeline. (Low risk)	Additional time was added at the end of the CLC POI to accomplish planned daily rotations. (Low risk)

5. OBSERVATIONS AND RECOMMENDATIONS. The recommendations are suggestions for improvement based on USAMEDDBD CT team observation notes made during this CT.

a. Deployment times. The deployment times of the RISE to treat the simulated casualties averaged 14 seconds when CT players–with and without work gloves–used a single splint. The deployment time for CT players to use two RISEs for the treatment in stabilizing a simulated casualty's pelvic area averaged 25 seconds. The deployment time for by CT players who wore CBRN gloves to use two RISEs as splints for pelvic stabilization increased to an average of 34 seconds (see figures 4 and 5). The CT players had some difficulty in opening the plastic wrapper of the RISE; the issue persisted when they did not wear gloves, when they wore work gloves, and when they wore CBRN gloves. In all configuration cases, the average time while deploying the RISE was less than one minute.

Figure 4. Wearing CBRN Gloves While Using Ties.

Figure 5. Folding and Molding RISE While Wearing CBRN Gloves.

b. Equipment positioning. The positioning of the IFAK Gen II on the CT player's LBV (see figure 6) was dependent upon which hand was the dominant hand of the specific CT player. For the right-handed CT players, it was positioned on the left; for the left-handed CT players, it was positioned on the right.

Figure 6. Load Bearing Vest with IFAK Gen II Attached.

c. Stowing RISE. The IFAK Gen IIs used for the testing did not initially have the RISEs stowed inside the kits. The RISEs were delivered by the vendor prior to the start of training and were not stowed inside the IFAK Gen IIs. The CT players were the first to stow the RISEs inside the IFAK Gen IIs (see figure 7) prior to test start, where they discovered that the RISE was a little long after placing it inside the pouch. The RISE being longer made it very difficult to close the IFAK Gen II through using the securing flaps

Figure 7. IFAK Gen II with RISE.

d. CT Player Poll. The CT players were polled at the end of the RISE AAR session and were asked: "If you were issued the RISE "as is," which was what you used during testing, would you take and use it in combat?" The poll results were 19–"Yes" and 8–"No;" but, when asked: "If you were issued the RISE with the recommendations incorporated, would you take and use it in combat?" The poll results were 27–"Yes" and 0–"No." The CT players were polled at the end of the IFAK Gen II AAR session and were asked: "If you were issued the IFAK Gen II "as is," which was what you used during testing, would you take and use it in combat?" The poll results were 27–"Yes" and 0–"No."

e. RISE Strengths. (See appendix A, table A–1 for supporting data.)

(1) The RISE is compact and snugly fits into the IFAK Gen II pouch.

(2) It is very lightweight.

(3) The RISE is easy to use.

(4) It is adjustable.

(5) It has the versatility to mold it to fit the casualty.

(6) The RISE is integrated as part of the IFAK Gen II items.

f. RISE Weaknesses and Recommendations.

(1) The zip ties are too small and tedious to use during wet-weather conditions or while wearing of gloves (work and CBRN); the zip ties can be easily lost**. Recommendation:** Replace the zip ties with snaps/buttons for ease of use and add texture to the RISE surface to provide additional grip while splinting a casualty.

(2) It is not sturdy enough for long extremities**. Recommendation:** Increase the length of the RISE for use on longer extremities and for pelvic stabilization.

(3) The plastic wrapper was hard to tear open to access the RISE**. Recommendation:** Add a perforations line on the wrapper for to make it easier to tear open.

(4) We had to use both the casualty's and the care giver's RISEs for pelvic stabilization. **Recommendation:** Add an additional RISE to the IFAK Gen II or increase the length of the RISE to accommodate the treatment of pelvic stabilization. Reinforce the pre-cut slots to avoid tearing when tightening up the tourniquet. (See appendix B for MTIR supporting data.)
.

(5) The pre-cut slots for the tourniquet used for pelvic stabilization tore easily when the tourniquet was tightened up. **Recommendation:** Increase the thickness of the RISE or reinforce the area around the pre-cut slots. Add additional pre-cut slots in each section so that it can be folded to add more strength when tightening the tourniquet. Design some type of a grommet made of metal or hard plastic on the inside of the pre-cut slots for reinforcement.

(6) The use of the currently provided adhesive tape for securing the RISE to the casualty was not effective. **Recommendation:** Replace the currently provided adhesive tape with Velcro-type straps that can be used during a wet-weather environment or some self-locking straps.

(7) It is hard to close the IFAK Gen II closure flaps, and it is time consuming when the RISE is stowed inside the pouch**. Recommendation:** Have the RISE fold crease areas shorter to allow for the overall stow length to fit into the pouch and to ease the closing of the flaps.

g. IFAK Gen II Strengths. (See appendix A, table A–2 for supporting data.)

(1) The components inside were easily accessible.

(2) The components inside were visibly identifiable.

(3) It is designed to be opened from both sides.

(4) It has a low profile and is not bulky.

(5) The lanyard prevents the inner pouch from being dropped.

(6) The uniformity of components labeling makes it easy for resupply.

(7) It has adhesive tape for wrapping the casualty's injuries.

(8) Its lightweight design makes it easier to carry.

(9) The sharpie helps to make marks on the RISE.

(10) The Tactical Combat Casualty Care card is a good idea to have in the IFAK Gen II.

h. IFAK Gen II Weaknesses and Recommendations.

(1) The IFAK Gen II is hard to close, and it is time-consuming to close when the RISE is stowed inside the pouch. **Recommendation:** Design the flaps to be longer or make the pouch larger; additionally, add Velcro to the tourniquet cover. Have the RISE fold crease areas shorter to allow the length of the device to fit in the pouch and to ease the closing of the flaps.

(2) There is not enough adhesive tape in the IFAK Gen II to use on multiple casualty injuries or to treat more than one casualty**. Recommendation:** The amount of adhesive tape should be increased in the IFAK Gen II inventory.

(3) The IFAK needs to be larger to accommodate additional medical supplies**. Recommendation:** There is a need for a small flashlight, another eye patch, pain medications, a non-decompression needle, a cravat (neckband), and a Medevac request 9-line card.

(4) The inside of the back pouch, where the RISE is stowed, is not accessible from both sides. **Recommendation:** Remove the back pouch and stow the RISE inside the main pouch area.

(5) It is hard to put medical supplies back into the pouch once it has been opened and partially used. **Recommendation:** Ensure the IFAK Gen II can hold medical supplies that had been opened but not used, such as ensuring they can be placed back into the place holders they were removed from.

(6) The IFAK has no outside markings that identify it as a medical kit. **Recommendation:** Add medical marking to the outside of the kit–perhaps use a Red Cross emblem.

i. Additional Observations.

(1) Training. The training provided by the vendor personnel was adequate in the use of the instructional slides and through the incorporation of hands-on training. The CT players followed along, with the test items (RISE and IFAK Gen II) on their desks to practice using the test items (see figure 8), as instructions were provided. The CT players had the opportunity to ask various questions on both the RISE and the IFAK Gen II pertaining to procedural steps in use, functionalities, and usability.

Figure 8. Training with IFAK Gen II and the RISE.

(2) Quality Control and Quality Assurance. Before starting and during the training, the CT team initiated a quality control and quality assurance program. The RISE and IFAK Gen II test items were inspected and inventoried to ensure all test items and medical items within IFAK Gen II were accounted for and available for training and testing. Additional accessories were verified to be available for use by CT players during the testing. At the conclusion of the CT, the CT players completed surveys and turned them in the USAMEDDBD CT team, who reviewed them for completeness, readability, context, and flow of information.

(3) Modified Test Incident Report (MTIR). (See appendix B for MTIR supporting data.) During pelvic stabilization using two RISEs with a tourniquet, the pre-cut slots tore or ripped, or slots were stressed and stretched out of configuration at the upper edges, when the tourniquet was tightened. There had been several occurrences of this happening at the same test lane during pelvic stabilization; the incidents were documented in one modified incident report and supporting pictures were attached.

APPENDIX A

SUPPLEMENTAL DATA

A−1. The CT players who participated had combat deployment experience using the currently fielded splints; they provided their responses on the CT Player Survey. Their responses reflected their past experience in comparison to using the RISE.

A−2. Table A−1 provides a summary of CT player's responses from the CT Player Survey in addition to CT player comments that referenced the RISE.

TABLE A–1. SUMMARY OF CT PLAYER RESPONSE FOR RISE		
Survey Question	Response	
1. Does the RISE have the capability of providing rigid immobilization for both the upper and lower extremities?	YES	NO
	19	8
Unedited comments from CT players:		
• It is good for the upper extremities but needs to be longer for the lower extremities. • The length of the RISE would not accommodate a much taller person with longer extremities. • The RISE lacks sturdiness and strength for lower extremities of larger casualties. • The factory creases of the RISE tend not to stay when molded to a casualty and reverts to the factory crease. • The RISE did not immobilize an extremity completely.		
Survey Question	Response	
2. Does the RISE have the ability to lock into place a straight splint up to 24 inches?	YES	NO
	24	3
Unedited comments from CT players:		
• It should be made using thicker material. • The RISE, when applied, tends to bend if the casualty moves.		
Survey Question	Response	
3. Does the RISE have the capability to lock, at most angles required, to splint a joint at a 90-degree angle?	YES	NO
	25	2
Unedited comments from CT players:		
• Yes, it does; but, it does not appear to be strong enough to support the injured 90-degree area. • The RISE, configured at 90 degrees, can bend the opposite way while applied to casualty when the casualty moves the injured arm and if it is not placed in a sling. • There is a concern that the holes that the zip ties go through to hold the 90-degree angle may rip if tension is applied by the casualty's arm moving or flexing.		

TABLE A–1. SUMMARY OF CT PLAYER RESPONSE FOR RISE–Continued		
Survey Question	Response	
4. Does the RISE have the capability to fold in upon itself and to become shorter in length?	YES	NO
	27	0
Unedited comments from CT players:		
• For storing in the IFAK Gen II pouch, the fold creases need to be shorter to fit and to close the IFAK Gen II flaps.		
Survey Question	Response	
5. Does the RISE have the capability to be cut into smaller lengths to accommodate pediatrics?	YES	NO
	24	3
Unedited comments from CT players:		
• It is prefect for smaller joints. • It is too wide for pediatrics. • The RISE can be folded into a smaller size to fit instead of being cut. • It could have prorated lines to make it fold smaller.		
Survey Question	Response	
6. Does the RISE have the capability to be cut into smaller lengths to accommodate hands?	YES	NO
	24	3
Unedited comments from CT players:		
• It would be difficult to use the RISE on a finger injury. • It needs to have prorated lines to make it fold smaller. • The holes for the ties may not align for the folding to accommodate smaller injuries.		
Survey Question	Response	
7. Does the RISE have the capability to be cut into smaller lengths to accommodate feet?	YES	NO
	25	2
Unedited comments from CT players:		
• The RISE can be folded to a smaller size to fit instead of being cut. • It should have prorated lines to make it fold smaller.		
Survey Question	Response	
8. Does the RISE have a plastic base with cable ties or adhesive tape for fastening?	YES	NO
	27	0
Unedited comments from CT players:		
• The ties were difficult to handle and to sew into the aligning holes.		

TABLE A–1. SUMMARY OF CT PLAYER RESPONSE FOR RISE–Continued		
Survey Question	Response	
9. Does the RISE have the capability to be used as a pelvic stabilization device?	YES	NO
	23	4
Unedited comments from CT players:		
• The use of the casualty's and the care giver's RISEs is not an ideal option; perhaps have two RISEs per IFAK Gen II would be best. • The pre-cut slots the tourniquet goes through to secure the two RISEs to apply stabilization pressure to the pelvic is not strong enough to withstand the tension. • The RISE's pre-cut slots start to rip when the tourniquet is tightened.		
Survey Question	Response	
10. Does the RISE have the capability to fit into the IFAK Gen II when packaged?	YES	NO
	19	8
Unedited comments from CT players:		
• The RISE, when stowed in the inner pouch, makes it hard to close the IFAK Gen II flaps at either end. • The Velcro on the flaps is not wide enough to properly close the IFAK Gen II with the RISE. • The sectional folds should be shorter to allow the RISE to fit within the IFAK Gen II's pouch.		
Survey Question	Response	
11. Does the RISE have written instructions on care and use?	YES	NO
	27	0
Unedited comments from CT players:		
• The instructions are easy to read and follow. • The instructions should be printed on the splint.		
Survey Question	Response	
12. Does the RISE have adequate plastic ties or adhesive tape for fastening splint securely to casualty?	YES	NO
	23	4
Unedited comments from CT players:		
• The number of ties should be increased to at least eight. • The RISE does not come with adhesive tape; as a result, the adhesive tape inside of the IFAK Gen II has to be used. • The plastic ties are difficult to use with or without gloves.		
Additional Comments: • There is concern with the sturdiness and capabilities for lower extremities injuries. • The light weight and compactness of the RISE is a good idea. • The insertion of a reinforced material at the pre-cut slots where the tourniquet is used would lessen the chances of the slots tearing or ripping. • Additional training would be needed for the application of the RISE for pelvic stabilization and for the splinting of a 90-degree angle. • Replace the RISE's zip ties with snaps or buttons. • Have perforated tear lines on the RISE package to ease package opening.		

A−2. Table A−2 provides a summary of CT player's responses from the CT player Survey in addition to CT player comments that referenced the IFAK Gen II.

TABLE A–2. SUMMARY OF CT PLAYER RESPONSE FOR IFAK GEN II		
Survey Question	Response	
1. Does the IFAK Gen II have a clear plastic design of the inside pouch to ensure easy visibility of supplies?	YES	NO
	27	0
Unedited comments from CT players:		
• The eye patch was not clearly visible when the IFAK pouch was opened.		
Survey Question	Response	
2. Does the IFAK Gen II have a low profile, and is it easy to mount onto the MOLLE system?	YES	NO
	27	0
Unedited comments from CT players:		
• The way the IFAK Gen II opens may be a concern if the casualty is laying on his/her side where his/her IFAK Gen II is located.		
Survey Question	Response	
3. Does the IFAK Gen II have multiple pouches for standard medical supplies?	YES	NO
	27	0
Unedited comments from CT players:		
• More medical supplies need to be added.		
Survey Question	Response	
4. Does the IFAK Gen II have the capability to hold Class VIII medical supplies?	YES	NO
	27	0
Unedited comments from CT players:		
• Need to add more adhesive tape for treatment of multiple injuries.		
Survey Question	Response	
5. Does the IFAK Gen II provide accessibility for tourniquet pouches when the IFAK is configured on the Soldier's LBV or MOLLE?	YES	NO
	27	0
Unedited comments from CT players:		
• If the way the casualty is laying on his/her side happens to be where the tourniquet pouch is located, the caregivers would have to move the casualty to gain access, which could cause additional pain. • The IFAK Gen II and tourniquet pouches that are attached to the LBV leave limited space for anything else to be mounted.		

TABLE A–2. SUMMARY OF CT PLAYER RESPONSE FOR IFAK GEN II–Continued		
Survey Question	Response	
6. Is the tourniquet easily accessible to users with or without combat gloves?	YES	NO
	27	0
Unedited comments from CT players:		
No Comments provided.		
Survey Question	Response	
7. Can the tourniquet be easily repacked and be stowed in the IFAK Gen II?	YES	NO
	19	8
Unedited comments from CT players:		
• The tourniquet case is hard to snap closed. • An additional piece of Velcro on the underside of the snap would make it easier to close the case. • The tourniquets are separate within their own narrow cases from the IFAK Gen II and would be replaced in the same configuration.		
Survey Question	Response	
8. Is the RISE easily accessible to users with or without combat gloves?	YES	NO
	19	8
Unedited comments from CT players:		
• It was difficult to remove from the IFAK Gen II while wearing gloves. • It is very difficult to tear open the RISE packaging. • It is difficult to access the RISE since you have to use only one end of IFAK Gen II opening. • It depends upon which side the IFAK Gen II is positioned on the LBV or MOLLE.		
Survey Question	Response	
9. Can the RISE be easily repacked and be stowed in IFAK Gen II?	YES	NO
	17	10
Unedited comments from CT players:		
• If the RISE was still in the package, it would work well; but if the packaging is off, it makes repacking it harder with the exposed rubber bands and ties. • The RISE is a one-time use item; but, if it is taken out, the packaging is removed, and the splint is not used, then stowing it back into the pouch could pose an issue. • The RISE is a little long, which makes it difficult to close the IFAK Gen II. • It is too hard to securely close the IFAK Gen II flaps with the RISE stowed within the IFAK Gen II pocket.		
Survey Question	Response	
10. Is the IFAK Gen II pouch durable?	YES	NO
	27	0
Unedited comments from CT players:		
• The material used appears to be durable, but the side openings do not close completely with the RISE.		

TABLE A–2. SUMMARY OF CT PLAYER RESPONSE FOR IFAK GEN II–Continued		
Survey Question	Response	
11. Is it easy to resupply medical items inside the IFAK Gen II after mission?	YES	NO
	26	1
Unedited comments from CT players:		
• The medical resupply items must be in the compressed condition or original packaging for it to fit in the allotted placement.		
Survey Question	Response	
12. Does the IFAK Gen II have the capability to be secured anywhere on the Soldier's LBV or MOLLE?	YES	NO
	27	0
Unedited comments from CT players:		
• It is dependent upon the dominant hand of the person wearing the IFAK Gen II. • The user has to fit IFAK Gen II and tourniquets within the limited space with other equipment attached.		
Survey Question	Response	
13. Does the IFAK Gen II have the capability for a Soldier to reorganize medical supplies within the IFAK Gen II to meet mission needs?	YES	NO
	25	2
Unedited comments from CT players:		
• Moving the medical supplies around would be dependent upon the size of the holding loops. • The IFAK Gen II is not big enough to hold any additional medical supplies.		
Survey Question	Response	
14. Does the weight of the IFAK Gen II, with medical supplies loaded, exceed four pounds?	YES	NO
	27	0
Unedited comments from CT players:		
No Comments provided.		
Survey Question	Response	
15. Is the IFAK Gen II usable for stabilizing a casualty in an operational environment?	YES	NO
	25	2
Unedited comments from CT players:		
• It would be dependent upon the type of injury. • There is no decompression needle as part of the kit. • It needs more adhesive tape.		

TABLE A–2. SUMMARY OF CT PLAYER RESPONSE FOR IFAK GEN II–Continued		
Survey Question	Response	
16. Is the IFAK Gen II easily transportable by a Soldier in various configurations on a LBV or MOLLE?	YES	NO
	27	0
Unedited comments from CT players:		
No Comments provided.		
Survey Question	Response	
17. Does the IFAK Gen II provide adequate accessibility of medical supplies necessary to render self-aid?	YES	NO
	27	0
Unedited comments from CT players:		
No Comments provided.		
Survey Question	Response	
18. Does the IFAK Gen II provide adequate accessibility of medical supplies necessary to render buddy-aid?	YES	NO
	27	0
Unedited comments from CT players:		
No Comments provided.		
Survey Question	Response	
19. Does the IFAK Gen II have a trifold design that secures medical supplies?	YES	NO
	27	0
Unedited comments from CT players:		
• The flaps are not large enough to tightly close the IFAK Gen II.		
Survey Question	Response	
20. Does the IFAK Gen II have a lanyard for securing the device to reduce the likelihood of falling off or losing the device?	YES	NO
	27	0
Unedited comments from CT players:		
No Comments provided.		

TABLE A–2. SUMMARY OF CT PLAYER RESPONSE FOR IFAK GEN II–Continued		
Survey Question	Response	
21. Does the IFAK Gen II have a zipper or a snap for securing and closing the IFAK Gen II?	YES	NO
	26	1
Unedited comments from CT players:		
• The Velcro straps are too short to fully close the IFAK Gen II with the RISE inside. • The IFAK Gen II uses Velcro flaps for securing the ends of the pouch. • The Velcro flaps are too short to fully close the IFAK Gen II pouch.		
Survey Question	Response	
22. Does the IFAK Gen II provide for quick identification of locating specific items for treatment of a casualty?	YES	NO
	27	0
Unedited comments from CT players:		
• The combat patches were hidden behind the Velcro flap.		
Additional Comments: • The IFAK Gen II would be better if it opened on the top and not on the sides. • Additional medical items need to be inside IFAK Gen II, such as triage bandages and compressed seals. • The closure flaps are too short to adequately close with the RISE inside. • Make the inside pocket accessible from both sides of the IFAK Gen II. • There is not enough adhesive tape in the IFAK Gen II. • Make the inside pouch larger to fit two RISEs to each IFAK Gen II.		

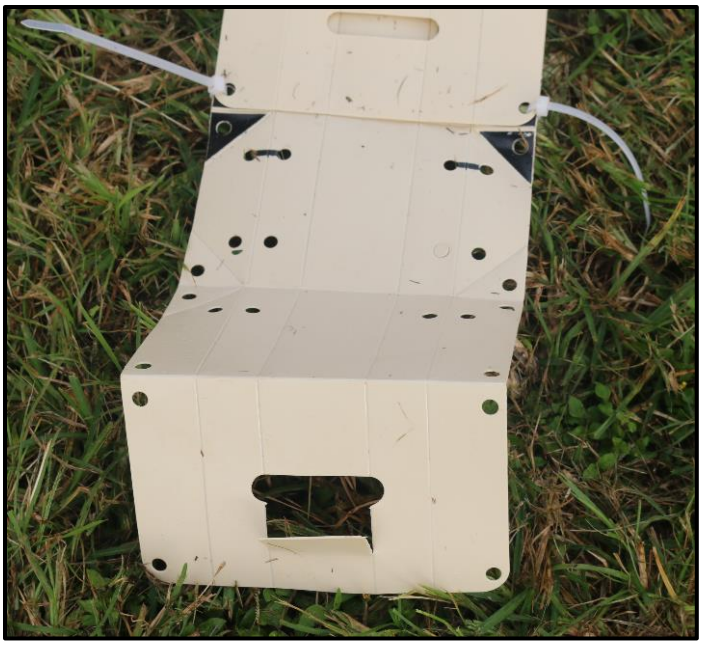
APPENDIX B

MTIR SUPPLEMENTAL DATA

B−1. Modified Test Incident Report. The MTIR below reflects an issue experienced during the pelvic stabilization of casualties with the RISE slots tearing or ripping at the ends.

1. RISE ISSUES.

PROJECT TITLE: RISE and IFAK Gen II CT	PROJECT NO: 17-18	INCIDENT NUMBER: 001
TEST AGENCY: US Army Medical Department Board	REGISTRATION NUMBER: N/A	
I. MAJOR ITEM DATA: RISE SERIAL NUMBER: N/A		
II. INCIDENT DATA		
TITLE: RISE Malfunctions	DATE: ____12/12/2018 (MMM/DD/YYYY) TIME: __1500_____ HH:MM	
PROBLEM TYPE: CRITICAL	OBSERVED DURING: Pelvic Stabilization	
III. INCIDENT DESCRIPTION		
Give a full description of the incident: 1. RISE manufacturer's pre-cut slots used for attaching tourniquet for the stabilization of pelvic area tore or ripped at upper edges (MTIR figure 1 and 2).		
IV. CORRECTIVE ACTION TAKEN		
Give a full description of action(s) taken and results achieved: Took photographs of damaged RISEs and replaced all that were torn or ripped as problems occurred.		
NAME, TITLE, & PHONE NUMBER OF PREPARER: Gary Cabigon, Lead CT Officer, 210-295-9950	PROJECT OFFICER (SIGNATURE):	
ORGANIZATION/LOCATION: USAMEDDBD/JBSA Fort Sam Houston	COMMERCIAL PHONE/TERMINAL: 210-295-9950	



MTIR Figure 1.

MTIR Figure 2.

B–2. Modified Test Incident Report. The MTIR below reflects an issue experienced during the pelvic stabilization of casualties in which the RISE slots stressed or stretched out of their original configuration.

2. RISE ISSUES.

PROJECT TITLE: RISE and IFAK Gen II CT	PROJECT NO: 17-18	INCIDENT NUMBER: 002
TEST AGENCY: US Army Medical Department Board	REGISTRATION NUMBER: N/A	
I. MAJOR ITEM DATA: RISE SERIAL NUMBER: N/A		
II. INCIDENT DATA		
TITLE: RISE Malfunctions	DATE: ____12/12-13/2018 TIME: __1530_____ (MMM/DD/YYYY) HH:MM	
PROBLEM TYPE: CRITICAL	OBSERVED DURING: Pelvic Stabilization	
III. INCIDENT DESCRIPTION		
Give a full description of the incident: 1. RISE manufacturer's pre-cut slots used for attaching tourniquet for stabilization of pelvic area stressed out of configuration at upper edges (MTIR figure 3 and 4).		
IV. CORRECTIVE ACTION TAKEN		
Give a full description of action(s) taken and results achieved: Took photographs of damaged RISEs and replaced all that were stressed out of configuration as problems occurred.		
NAME, TITLE, & PHONE NUMBER OF PREPARER: Gary Cabigon, Lead CT Officer, 210-295-9950	PROJECT OFFICER (SIGNATURE):	
ORGANIZATION/LOCATION: USAMEDDBD/JBSA Fort Sam Houston	COMMERCIAL PHONE/TERMINAL: 210-295-9950	

MTIR Figure 3.

MTIR Figure 4.

ACRONYMS AND ABBREVIATIONS

AAR	after action review
AOTR	abbreviated operational test report
CBRN	chemical biological radiological nuclear
CLC	combat lifesaver course
CT	customer test
IFAK Gen II	Individual First Aid Kit Generation II
LBV	load bearing vest
MOLLE	Modular Lightweight Load-carrying Equipment
MOS	military occupational specialty
MSS–PMO	Medical Support Systems, Program Manager Office
MSTC	Medical Simulation Training Center
MTIR	modified test incident report
POI	point of injury
RISE	Rigid Immobilization System for Extremities
USAMEDDBD	U.S. Army Medical Department Board
USAMMDA	U.S. Army Medical Materiel Development Activity

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