

Headquarters
United States Forces Korea
Unit #15237
APO AP 96205-5237

United States Forces Korea
Regulation 40-2

9 December 2009

Medical Services

**PREVENTION, SURVEILLANCE, DIAGNOSIS, TREATMENT AND REPORTING OF VIVAX
MALARIA IN THE REPUBLIC OF KOREA**

***This regulation supersedes USFK Regulation 40-2, 13 August 2003.**

FOR THE COMMANDING GENERAL:

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Official:



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Chief of Publications and
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Summary. This regulation describes measures for the surveillance, diagnosis, treatment, and reporting of VIVAX malaria in the Republic of Korea (ROK).

Applicability. This regulation applies to all service components, subordinate commands and tenant units assigned to United States Forces, Korea (USFK), and to all units and individuals deploying to the ROK.

Supplementation. Supplementation of this regulation and issuance of command and local forms are prohibited unless prior approval is obtained from HQ USFK, (FKSG-PM), Unit #15237, APO AP 96205-5237

Forms. USFK forms are available at <http://www.usfk.mil>.

Records Management. Records created as a result of processes prescribed by this regulation must be identified, maintained, and disposed of according to the governing service regulation.

Internal Controls Provisions. This regulation does not contain management control procedures

Suggested Improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Commander, USFK (FKJ4-SURG-PM), Unit# 15237, APO AP 96205-5237.

Distribution. Electronic Media Only (EMO).

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1. Purpose

This regulation describes measures for the surveillance, diagnosis, treatment, and reporting of vivax malaria in the Republic of Korea (ROK).

2. References

Required and related publications are listed in Appendix A.

3. Explanation of Abbreviations and Terms

Abbreviations and terms used in this regulation are explained in the glossary.

4. Responsibilities

a. Commanders at all echelons will--

(1) Develop an effective annual malaria prevention program, to be implemented by 15 April of each year. This provides at least two weeks ramp up time prior to the beginning of the malaria transmission season at the beginning of May. The Malaria Prevention Program will include the following as a minimum:

(a) Malaria risk assessment as provided by the Force Health Protection/Preventive Medicine (FHP/PM)

(b) Personal Protective Measures (PPM) necessary for minimizing the risk of malaria infection;

(c) Early diagnosis and treatment of malaria patients;

(d) Mosquito surveillance and control; and

(e) Education and training

(2) Ensure that USFK personnel conducting field training or on temporary duty overnight and exposed to mosquitoes in areas north of Seoul use all PPM available, including; the use of permethrin impregnated uniforms, permethrin impregnated bed nets (during field exercises), proper wear of uniforms, and insect repellents used on exposed skin from 1 May thru 30 October. NOMEX uniforms will not be impregnated with permethrin.

(3) Ensure maximum use of United States (U.S.) Army Field Sanitation Teams (FSTs); U.S. Navy Preventive Medicine Technicians, and the U.S. Air Force Public Health personnel to supplement U.S. Army Directorate of Public Works, U.S. Naval Fleet Activities Public Works, and the U.S. Air Force Civil Engineering Squadron, Entomology Section in implementing preventive measures.

b. The USFK Surgeon will--

(1) Ensure that all USFK confirmed malaria patients are admitted to the Brian Allgood Army Community Hospital (121 General Hospital) for isolation and epidemiological investigations.

(2) Ensure that health care providers are knowledgeable of signs, symptoms, laboratory diagnosis, and treatment of vivax malaria through annual training and continuing education.

(3) Ensure that health care providers are knowledgeable of and comply with chemoprophylaxis policies outlined in Appendix B.

(4) Coordinate laboratory support for malaria diagnosis and other appropriate tests.

(5) Maintain epidemiological data on USFK and Korean cases of vivax and other malaras (imported), to include: monitoring weekly, monthly, and annual malaria rates and trends

(6) Provide consultative advice on the prevention of vivax malaria, to include recommendations on appropriate usage of PPM, mosquito and medical surveillance, and interventions to reduce the risk of disease among USFK personnel.

(7) Ensure ongoing health education classes are provided to incoming personnel and other beneficiaries about the prevention, identification and treatment of vivax malaria.

(8) Ensure epidemiological and entomologic support or consultation is provided upon request, to include: larval and adult mosquito surveillance, adult mosquito population trends, and mosquito malaria infection rates.

(9) Recommend surveys of training sites to determine sources of mosquito breeding, mosquito population densities, and malaria infection rates.

(10) Recommend effective control measures that reduce malaria vector populations and potential transmission among U.S. military personnel.

(11) Ensure that pre- and post-surveillance of mosquito control operations are conducted to determine the effect of control measures on reducing adult mosquito populations and risk of malaria transmission.

(12) Ensure that weekly trends of mosquito populations and control recommendations are provided by Commander, 5th Medical Detachment (PM), 168th Medical Battalion (AS), to each unit point of contact (POC) that submits mosquitoes for identification.

(13) Ensure that annual assessments of training areas and fixed installations identified as suspected/confirmed foci for vivax malaria transmission are provided by Preventive Services Directorate to the Assistant Chief of Staff, J3.

(14) Ensure that Preventive Service Directorate conducts surveys to determine the usage of proper PPM and soldiers knowledge of malaria and protection are conducted, analyzed, and reported (Appendix C).

(15) Ensure that all Medical Treatment Facility (MTF) Patient Administration Officers annotate in the Master Program List of all military personnel with duty in Korea the following statement to include the start date and end date of duty.

Korea duty start date _____, end date _____
Consider MALARIA for episodes of lever

c. USFK Engineers will--

(1) Provide mosquito control on fixed installations in accordance with DODI 4150.7, AR 40-5. OPNAVINST 6250. 4A, and AFI 32-1053.

(2) Coordinate with the appropriate U.S. Army Director of Public Works, U.S. Navy PM Technicians, and the U.S. Air Force Public Health personnel to conduct mosquito surveillance at fixed installations and provide captured mosquitoes to the 5th MED DET (PM) for identification, analysis of data, and recommendations for control.

(3) Coordinate with the 18th MEDCOM Preventive Medicine Officer/Entomologist for collection and submission of collected mosquitoes for determining population densities, instituting mosquito control measures, and determining malaria infection rates.

(4) Coordinate with the Industrial Hygiene Consultant and the Entomology Consultant, 18th MEDCOM, for the calibration of Ultra Low Volume (ULV) foggers for maximum effectiveness.

5. Procedures

a. Preventive Services Directorate (PSD) will coordinate with Korea National Institute of Health to identify high-risk malaria areas based on ROK civilian and military malaria incidence (Appendix B).

b. Chloroquine prophylaxis and terminal primaquine prophylaxis will follow that outlined in Appendix C.

c. Blood donations. Korea is designated as a malaria endemic country. All blood donors must inform blood collection organizations of their travel history in Korea. Their ability to donate blood may be limited by the rules governing the blood collection agency with which they are trying to donate.

d. Component commands will report all suspected and confirmed cases of malaria to the USFK Surgeon (FKSG-PM) at DSN: (315) 724-6326/3079, FAX: DSN: (315) 724-3142.

e. Medical personnel will develop a system of surveillance for the early detection and treatment of patients.

f. All Preventive Medicine/Public Health components will conduct vector surveillance prior to initiating control in accordance with the references, and submit specimens to the 5th MED DET (PM), 168th MED BN (AS), 18th MEDCOM, for identification. Mosquito immature data will be maintained on the USFK Mosquito Collection and Rearing Form (Appendix D).

g. The 5th MED DET will provide an electronic form that produces a graphical analysis of adult mosquito population trends and information for implementing vector control. Data will be provided weekly to submitting agencies for implementing mosquito control. During the specified malaria season reports will be submitted weekly to the USFK Surgeon (FKSG-PM) at DSN: (315) 724-6326/3079, FAX: DSN: (315) 724-3142.

h. Epidemiological investigations and malaria survey procedures will follow that described in Appendix E.

Appendix A References

Section I. Required Publications

AFI 32-1053 (Pest Management Program)

AR 40-5 (Preventive Medicine). Cited in paragraph 4c(1)

DODI 4150-7 (DOD Pest Management Program). Cited in paragraph 4c(1)

Section II. Related Publications

“Essential Malariology”, Bruce-Chwatt, Leonard Jan; William Heinemann Medical Books Ltd, London; 2nd Edition, 1980.

“Mosquitoes of Japan and Korea”, Kazuo Tanaka, Mizusawa Kiyouki, and Edward S. Saugstad; Contributions of the American Entomological Institute, Vol. 16, 1979.

FM 4-25. 12 (Unit Field Sanitation Team)

“Navy Medical Guide to Malaria Prevention and Control”; R.A. Nelson, Reviewer; The Navy Environmental Health Center, Norfolk, Virginia 23511, 1st Edition 1984.

“Manual for the Microscopical Diagnosis of Malaria in Man”; Aimee Wilcox; U.S. Department of Health, Education, and Welfare, Public Health Service, U.S. Government Printing Office, Washington; 1st Edition, 1960.

“Diagnosis of Malaria”, Francisoco J. Lopex-Antunano and Gabriel Schmunis, Editors; Scientific Publication no. 512; Pan American Health Organization; 1990.

Appendix B

Chemoprophylaxis Requirements for Plasmodium VIVAX Malaria

B-1. Purpose

Information is provided for the proper administration of malaria chemoprophylaxis.

B-2. Background

a. The decision to utilize chemoprophylaxis against malaria is made based on: 1) the known rates of malaria transmission in a particular area, 2) the rate of vector mosquitoes positive for the parasite, 3) the ability to implement and actual implementation of PPM, and 4) the impact on mission accomplishment if a soldier gets sick with malaria.

b. Considering the above factors and the distribution of malaria during CY2001 and CY2002, chemoprophylaxis is not required for USFK personnel. For those units where the risk of malaria and its impact on mission accomplishment is deemed critical, chemoprophylaxis may be offered. The decision to implement chemoprophylaxis for USFK personnel residing or training in malaria high-risk areas will be made, if warranted, by the consideration of the above factors, particularly the rate of malaria transmission during the previous and current malaria seasons. Standard adherence to the doctrinal application of personal protective measures will significantly reduce the risk of malaria infection. The key time for malaria transmission is dependent upon the presence of the vector mosquitoes (*Anopheles* species). The period of highest risk of malaria infection is between 1 May and 30 October.

B-3. Chloroquine Chemoprophylaxis for Requesting Units.

a. One chloroquine tablet (500 mg) will be administered weekly starting one week before 1 May and continue until four weeks after 30 October, or, one week before training in a malaria high-risk area and continue until four weeks after 30 October. For individuals and/or units departing the ROK, chloroquine will be taken four weeks after departing the Korean Theater.

b. Chloroquine will be administered under **direct** observation at a pre-established time, such as a weekly formation or during "Sergeant's time".

c. Chloroquine has few side effects. It may cause stomach upset in 3% of those who take it. To reduce stomach upset, it should always be taken with food. Chloroquine is approved for flying status. It may be taken during pregnancy. It should not be given to those with a history of psoriasis. One 100mg tablet of Doxycycline may be taken daily for those unable to take chloroquine. However, doxycycline should not be given to pregnant or nursing women.

B-4. Terminal Chemoprophylaxis with Primaquine

a. Personnel required to take chloroquine must also take primaquine to eliminate *P. vivax* parasites that may be hiding (latent) in the liver. The primaquine regimen will start on or about 1 November or two weeks immediately prior to personnel permanently leaving the high-risk area. i.e., PCSing to the states.

b. Primaquine is taken daily as a single tablet for 14 consecutive days.

c. Primaquine is generally well tolerated. However, certain individuals who are glucose 6 phosphate dehydrogenase (G6PD) deficient (insufficient amounts of G6PD may result in hemolysis of red blood cells and is therefore potentially life threatening) should not take primaquine. All

individuals taking primaquine will be tested for G6PD deficiency. Primaquine will not be prescribed to anyone who has an abnormal G6PD test result without written medical consultation from the internal medicine service. Service members found to be deficient in G6PD will be counseled regarding the importance of using PPM. G6PD deficient service members who wish to take primaquine will be appropriately monitored.

Appendix C

Assessment of Military Members Knowledge and Practices Regarding Malaria

C-1. Pre-and post-evaluations of soldiers knowledge of malaria and PPM will utilize Annex A and B of this Appendix.

C-2. Pre- and post-malaria season evaluations will be administered to selected units throughout the peninsula who train in malaria risk areas as defined by Preventive Services Directorate (PSD), 18th MEDCOM in collaboration with Korea National Institute of Health and Ministry of National Defense. Surveys will be conducted in April/May (pre-season) and November/December (post-season).

C-3. Community Health Nurses, PSD, in coordination with supporting medical staff, will distribute survey forms to unit commanders/First Sergeants, answer pertinent questions, collect completed forms, and forward to PSD. The PSD will enter the survey results into a database and analyze data by standard statistical methods.

C-4. The PSD will report results to unit commander and surgeons at all echelons.

**Annex A
Malaria Risk Survey**

Your cooperation in completing this survey is an important part of our defense against Malaria. Answer each item to the best of your ability. If an item is unclear, ask for help. The information you provide in this survey will not be linked to you by name. This survey will be maintained by the Preventive Services Directorate, 18th MEDCOM, Yongsan, Korea. You may use ink and also write any comments on the back of this form.

Today's Date
D D M M Y Y Age Pay Grade
(E1-O9) Sex:
M F

Unit Identifier Code:
 Arrival date to Korea:
D D M M Y Y

How many times did you do field training from May through October while in Korea?

The following questions require you to circle the response that best describes your situation during mosquito season, May through October.

When at your assigned base, how often did you apply insect repellent when outdoors during evening hours?

- () Always () Frequently () Seldom () Never () Not Applicable

How often have you received insect bites while residing/working at your base camp?

- () Daily () Almost Daily () Several times () Occasionally () Never

Did you receive a class of instruction on malaria and personal protective measures?

- () Yes, by videotape () Yes, by individual instructor () Yes, video tape & instructor
 () No instruction () Uncertain

How often have you been bitten by insects while in the field?

- () Daily () Almost Daily () Several times () Occasionally () Never
 () Not Applicable, never trained in the field

When in the field, did you wear your shirt with the sleeves down and your boots bloused?

- () Always () Frequently () Seldom () Never () Not Applicable

Do you have permethrin treated uniforms? If Yes, how many?

- () Yes () No () Uncertain

Do you have military issued insect repellent (DEET)?

- () Yes () No () Uncertain

When in the field how often did you apply insect repellent to bare skin?

- () Always () Frequently () Seldom () Never () Not Applicable

When in the field, how often did you apply insect repellent when using camouflage face paint?

- () Always () Frequently () Seldom () Never () Not Applicable

Do you have bed nets for field use? If so, did you treat your bed nets with permethrin?
() Yes () No () Uncertain () Yes () No () Uncertain

When in the field, how often did you use bed nets?
() Always () Frequently () Seldom () Never () Not Applicable

When in the field, how did you wear your uniform?
() Wear full BDU all the time () BDU while on duty with PT uniform when resting
() BDU with the shirt off sometimes () Other (describe) _____

How is malaria transmitted? () Mosquitoes () Ticks () Fleas () Food () Water
() Don't know

What are things that you can do to prevent malaria? (Check all that apply)
() Flea collars () Repellent (DEET) () Permethrin treated uniforms () Permethrin on skin
() Skin so soft () Use bed nets () Secure tent openings () Wear shirtsleeves down
() Other: _____

Did you take malaria pills? () Yes () No () Don't know

If so Did someone watch you take the pill?..... () Yes () No () Don't know

Did you take the pill every week?..... () Yes () No () Don't know

If you went on leave, were you given pills? () Yes () No () Don't know

If you went on leave, did you take the pills? () Yes () No () Don't know

If you took malaria pills did you experience problems? () Yes () No () Don't know

Describe problems: _____

Do you think that Personal Protective Measures (PPM) protect you against malaria?(permethrin treated uniforms, application of DEET on exposed skin, and permethrin treated bed nets)

() No Protection () Slight () Some () High Level of protection

Do you think that DEET (repellent) and permethrin (insecticide) are harmful to you?

() Not Harmful () Slightly () Somewhat () Very harmful

Does your Command emphasize Personal Protective Measures to prevent malaria?

No Emphasis Slight Some High Level of Emphasis

What do you think that your chances are for getting malaria while in Korea?

No Chance Slight Some High Chance

Do you feel that malaria pills are harmful to you?

No Harmful Slight Somewhat Very Harmful

COMMENTS:

Annex B

말라리아의 위험에 관한 설문지

이 설문지 작성에 대한 여러분의 협조는 말라리아를 막는 데 아주 중요합니다. 각 문항에 최선을 다해 답해주시기 바랍니다. 문항이 분명히 이해되지 않을 때는 도움을 청하십시오. 당신이 이 설문지에 기록한 정보는 익명이 보장됩니다. 이 설문지는 용산의 the Preventive Services Directorate, 18th MEDCOM에서 보관하게 됩니다. 잉크를 사용하여도 되며 하고 싶은 말이 있으면 설문지 맨 끝에 적어도 좋습니다.

오늘 날짜: 나이: 계급: (E1-O9) 성별: 남 여

년 월 일

부대코드: 대한민국 입국일:
년 월 일

대한민국에 있는 동안 5월에 10월 사이에 얼마나 자주 야외훈련을 하였습니다?

다음 문항에서 모기철인 5월에서 10월 사이에 당신의 상황을 가장 잘 묘사한 답에 O표를 하십시오.

부대배치 후 저녁에 밖에 있을 때 얼마나 자주 방충제를 바르거나 뿌립니까?

() 언제나 () 자주 () 거의 않는다 () 전혀 않는다. () 해당하지 않음

부대에서 살거나 일하는 동안 얼마나 자주 벌레에게 물렸습니까?

() 날마다 () 거의 날마다 () 여러번 () 드물게 () 전혀

말라리아와 그 예방법에 관한 설명을 들으셨습니까?

() 예 (비디오테이프) () 예(강사로부터) () 예(비디오테이프와 강사로부터)
() 아니오 () 불확실

야외에 있는 동안 얼마나 자주 벌레에게 물렸습니까?

() 날마다 () 거의 날마다 () 여러번 () 드물게 () 전혀
() 해당하지 않음, 야외에서 훈련받은 적 없음

야외에 있을때 소매를 내리고 전투화와 바지 사이에 빈틈이 없도록 합니까?

() 언제나 () 자주 () 거의 않는다 () 전혀 않는다. () 해당하지 않음

당신은 퍼메트린 처리된 유니폼을 가지고 있습니까 그렇다면 몇벌 가지고 있습니까?

() 예 () 아니오 () 불확실

당신은 군에서 공급하는 방충제(DEET)를 가지고 있습니까?

() 예 () 아니오 () 불확실

야외에서 당신은 얼마나 자주 피부에 방충제를 뿌리거나 바릅니까?

() 언제나 () 자주 () 거의 않는다 () 전혀 않는다. () 해당하지 않음

야외에서 위장크림을 바를 때 당신은 얼마나 자주 방충제를 뿌리거나 바릅니까?

() 언제나 () 자주 () 거의 않는다 () 전혀 않는다. () 해당하지 않음

당신은 야전용 방충망을 가지고 있습니까? 가지고 있다면, 당신의 방충망은 퍼메트린 처리돼 있습니까?

() 예 () 아니오 () 불확실 () 예 () 아니오 () 불확실

야외에서 당신은 얼마나 자주 방충망을 사용합니까?

() 언제나 () 자주 () 거의 않는다 () 전혀 않는다. () 해당하지 않음

야외에서 당신은 어떻게 유니폼을 입습니까?

() 언제나 BDU () 근무 중엔 BDU, 휴식 때는 PT유니폼
() BDU, 가끔 상의는 벗음 () 기타 _____

말라리아는 어떻게 전파됩니까? () 모기 () 진드기 () 벼룩 () 음식 () 물 () 모름

말라리아를 막기 위해 할 수 있는 일은 무엇입니까? (모두 표시)

() 벼룩막는 목걸이 () 방충제 () 퍼메트린 처리된 유니폼 () 피부에 퍼메트린을 뿌린다
() 부드러운 피부 () 방충망 사용 () 텐트 입구를 잘 막는다 () 소매를 내려 입는다
() 기타: _____

당신은 말라리아 약을 먹었습니까? () 예 () 아니오 () 모름

그렇다면, 누군가가 당신이 먹는걸 지켜봤습니까?..... () 예 () 아니오 () 모름

매주 약을 먹었습니까?..... () 예 () 아니오 () 모름

휴가때 약을 받았습니까?..... () 예 () 아니오 () 모름

휴가때 약을 먹었습니까?..... () 예 () 아니오 () 모름

말라리아약을 먹었을 때 문제가 있었습니까? () 예 () 아니오 () 모름

어떤문제였습니까: _____

다음 질문에서 당신의 생각을 나타내는 답에 O표를 하십시오.

당신은 개인예방법(Personal Protective Measures : PPM)으로 말라리아를 예방할 수 있다고
생각합니까?(퍼메트린 처리된 유니폼, 노출된 피부에 DEET뿌리기, 퍼메트린 처리된 방충망)

예방되지 않음 조금 예방됨 높은 수준의 예방

당신은 DEET(방충제)와 퍼메트린(살충제)이 당신에게 해롭다고 생각합니까?

해롭지 않음 조금 해로움 매우 해로움

당신의 지휘관은 말라리아를 예방하기 위해 개인예방법을 강조합니까?

강조하지 않음 조금 강조함 매우 강조함

당신은 한국에 있는 동안 당신이 말라리아에 걸릴 확률이 얼마나 된다고 생각합니까?

전혀 없음 조금 높음 매우 높음

당신은 말라리아약이 당신에게 해롭다고 느낍니까?

해롭지 않음 조금 해로움 매우 해로움

하고싶은 말:

**Appendix D
USFK Mosquito Collection and Rearing Record**

Country: Republic of Korea	Date:	Collection No.:KS-
Collectors:	Province:	County:
City:	Installation:	Longitude/Latitude:
TERRAIN <input type="checkbox"/> Mountain <input type="checkbox"/> Hill <input type="checkbox"/> Valley <input type="checkbox"/> Plateau <input type="checkbox"/> Plain ENVIRONMENT <input type="checkbox"/> Evergreen Forest <input type="checkbox"/> Deciduous Forest <input type="checkbox"/> Mixed Forest <input type="checkbox"/> Scrub <input type="checkbox"/> Swamp, Forest <input type="checkbox"/> Swamp, Open <input type="checkbox"/> Beach <input type="checkbox"/> Orchard/Plantation <input type="checkbox"/> Rice Paddy <input type="checkbox"/> Bamboo <input type="checkbox"/> Village <input type="checkbox"/> Urban <input type="checkbox"/> Military ENRIONMENTAL MODIFIERS <input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> Orchard <input type="checkbox"/> Cultivated Field <input type="checkbox"/> Other _____ COLLECTION TYPE <input type="checkbox"/> Immature <input type="checkbox"/> Biting/Landing <input type="checkbox"/> Light Trap <input type="checkbox"/> Shannon Trap <input type="checkbox"/> Other _____ REMARKS	LARVAL HABITAT <input type="checkbox"/> Pond – Lake <input type="checkbox"/> Ground Pool <input type="checkbox"/> Marshy Depression <input type="checkbox"/> Stream Margin <input type="checkbox"/> Rock Pool <input type="checkbox"/> Seepage – Spring <input type="checkbox"/> Swamp <input type="checkbox"/> Ditch <input type="checkbox"/> Pit <input type="checkbox"/> Well/Cistern <input type="checkbox"/> Artificial Container <input type="checkbox"/> Tire <input type="checkbox"/> Tree Hole <input type="checkbox"/> Stump Hole <input type="checkbox"/> Bamboo Internode <input type="checkbox"/> Bamboo Stump <input type="checkbox"/> Plant Axil _____ <input type="checkbox"/> Fallen Leaf <input type="checkbox"/> Salt Marsh _____ _____ _____ _____ _____ _____ _____ _____ _____	DEMENSIONS OF SITE _____ m X _____ m _____ m X _____ m deep WATER pH _____ Conductivity _____ Temperature <u>C°</u> <input type="checkbox"/> Permanent <input type="checkbox"/> Semi-Permanent <input type="checkbox"/> Temporary WATER MOVMENT <input type="checkbox"/> Standing <input type="checkbox"/> Slow <input type="checkbox"/> Moderate Flow <input type="checkbox"/> Fast TURBIDITY <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Polluted <input type="checkbox"/> Colored _____ SHADE <input type="checkbox"/> None <input type="checkbox"/> Partial <input type="checkbox"/> Heavy AQUATIC VEGETATION <input type="checkbox"/> Emergent <input type="checkbox"/> Floating <input type="checkbox"/> Submerged <input type="checkbox"/> Algae (Green filamentous) <input type="checkbox"/> Algae (Green) <input type="checkbox"/> Algae (Brown)

USFK Mosquito Collection and Rearing Record (Reverse Side)

COLLECTION NUMBER:

KOR-

YYYY/Collection Number

SUB-NUMBER	LARVAL SKIN	PUPAL SKIN	SEX	MALE TERMINALIA	IDENTIFICATION NOTES

NOTES: Sub-numbers will be written as. (example) year-collection number- specimen number (00-001-1) for larvae collected in the field. For reared specimens from females (progeny), the numbers would be: year-collection number (parent number) – progeny number (00-001(1) 1).

**Appendix E
Epidemiological Survey**

I. Demographics

Last Name: _____, First Name: _____.

SSN: ____-____-____. MOS: _____. UIC: _____. _____.

Unit _____, Base Camp: _____.

Date of Arrival in the ROK: _____.

II. Case information

Date of Onset of Symptoms: _____. Symptoms(circle) : fever, Chills, HA, malaise, weakness, other: describe_____.

Date of First Medical Visit for this event: _____.

Date of Diagnosis: _____, Confirmed? YES or NO, if yes method _____.

DNA blot collected?

Chemoprophylaxis. Chloroquine taken: YES or NO, if yes, provide the following

Date started: _____. Were there any side effect? YES or NO,

if yes, please describe_____.

Did patient stop for any reason: YES or NO, if yes describe reason:

_____.

Primaquine taken, YES or NO, if yes have patient describe how taken and for how long with dates

III. Epidemiologic Data

Training Location. Have patient describe and name all training/range sites visited with dates of training, provide chronological information

Base Camp/Training Site Name:_____.		Dates:_____.	
Personal Protective Measures taken	Scale 0=never	to	5=always
		0	1 2 3 4 5
a. I wore permethrin treated uniforms.		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
b. I used DEET insect repellent on exposed skin		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
c. When bugs were flying, I wore long pants and long sleeves.		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
d. When bugs were flying, I used bed nets in the field		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
e. The amount of mosquitoes present were: (0= no mosquitoes seen, 5 = mosquitoes everywhere)		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
f. The number of mosquito bites I got were: (0=none, 5=too many to count)		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

Base Camp/Training Site Name:_____.		Dates:_____.	
Personal Protective Measures taken	Scale 0=never	to	5=always
		0	1 2 3 4 5
a. I wore permethrin treated uniforms.		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
b. I used DEET insect repellent on exposed skin		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
c. When bugs were flying, I wore long pants and long sleeves.		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
d. When bugs were flying, I used bed nets in the field		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
e. The amount of mosquitoes present were: (0= no mosquitoes seen, 5 = mosquitoes everywhere)		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
f. The number of mosquito bites I got were: (0=none, 5=too many to count)		<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

Base Camp/Training Site Name: _____ . Dates: _____ .

Personal Protective Measures taken	Scale 0=never	to	5=always			
	0	1	2	3	4	5
a. I wore permethrin treated uniforms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I used DEET insect repellent on exposed skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. When bugs were flying, I wore long pants and long sleeves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. When bugs were flying, I used bed nets in the field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. The amount of mosquitoes present were: (0= no mosquitoes seen, 5 = mosquitoes everywhere)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The number of mosquito bites I got were: (0=none, 5=too many to count)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Base Camp/Training Site Name: _____ . Dates: _____ .

Personal Protective Measures taken	Scale 0=never	to	5=always			
	0	1	2	3	4	5
a. I wore permethrin treated uniforms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I used DEET insect repellent on exposed skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. When bugs were flying, I wore long pants and long sleeves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. When bugs were flying, I used bed nets in the field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. The amount of mosquitoes present were: (0= no mosquitoes seen, 5 = mosquitoes everywhere)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The number of mosquito bites I got were: (0=none, 5=too many to count)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any travel in last 12 months outside of Korea or United States? YES or NO, if yes, describe where, when, and for how long. _____ .

Glossary

Section I. Abbreviations

AS	Area Support
BN	Battalion
FST	Field Sanitation Teams
G6PD	Glucose 6-Phosphate Dehydrogenase
MEDCOM	Medical Command
MED DET	Medical Detachments
MTF	Medical Treatment Facility
PM	Preventive Medicine
PPM	Personal Protective Measures
PSD	Preventive Services Directorate
ROK	Republic of Korea
U S	United States (of America)
USFK	United States Forces, Korea

Section II. Terms

Chloroquine. One of the 4-quinoline drugs taken for eliminating the blood stages of vivax malaria.

Chloroquine resistant. Malaria parasites that are resistant to standard therapeutic or chemoprophylactic doses of chloroquine.

Glucose 6-Phosphate Dehydrogenase (G6PD) deficiency. An enzyme deficiency more common in persons with Mediterranean ancestry that may result in hemolysis of blood when taking when taking primaquine for vivax malaria liver stage parasites.

Plasmodium vivax. One of four species of malaria parasites that cause human disease.

Primaquine. An 8-quinoline drug taken for eliminating the liver stages of vivax malaria.

Primaquine resistant. Malaria parasites that are resistant to standard therapeutic or chemoprophylactic doses of primaquine.

Vivax malaria. One of four species of human malaria parasites that belong to the species *Plasmodium viva*.