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SURGEONS OF GLASGOW
TRAVEL MEDICINE

Preparing Volunteers to Volunteer

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- *This talk was prepared by David Ross in his personal capacity.*
- *The opinions expressed are the presenter's own and do not necessarily reflect the views of any of the organisations he works with including Surgeon General's Department, the Ministry of Defence or Her Majesty's Government, MASTA, RCPSG or the Society of Apothecaries.*
- *I have no financial conflicts of interest in relation to this presentation.*

Abstract



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In the last decade there have been a significant number of volunteers that have responded to assist in Humanitarian and Disaster Relief Operations. This presentation will describe how best to protect the health of these responders whilst deployed and on their return.

Fragile States



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Fragile States Index: The levels of country stability in 2017

The Fragile States Index (FSI) is an annual rating of 178 countries based on the different pressures they face that impact their levels of fragility. Countries are rated on a scale of zero to 100 with a score of less than 20 being very stable and a score over 100 rated as a 'high alert' or a 'very high alert'



Disasters



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SEARCH TERM	1956-1965	1966-1975	1976-1985	1986-1995	1996-2005
"Disaster"	16	336	1152	2104	4939
"Disaster medicine"	2	15	15	80	75
"Disaster medical assistance teams"	0	0	0	8	9
"DMAT"	0	0	2	9	13

www.public.health.wa.gov.au/cproot/347/2/disaster%20medical%20assistance%20teams%20literature%20review%202006.pdf

Consequences



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- Death
- Disease
- Disability
- Food & resource scarcity
- Population movement

Broken people?



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- Women
- Children
- Elderly
- The sick (mental and physical)
- Refugees and IDPs



Changing Tradition in the Humanitarian Sector: The Business Model Approach of the Kenya Red Cross.

Source

Disaster Medicine and Public Health Preparedness 2018 12 (1) 3-4

Author(s)

Zolnikov, T.R., and Zolnikov, T.,.

Abstract

Global public health issues are increasing and creating consistently elevated humanitarian needs in many countries. For example, the Commission of Africa recommended doubling aid to Africa, and the Sustainable Development Goals suggest contributions reaching the trillions to mobilize and reach new agenda goals.^{1,2} Some specific escalating problematic trends include climate change, reemerging diseases, population growth, and food crises. These worldly challenges pose serious consequences to future populations and **infer a need for substantial efforts from humanitarian agencies.**

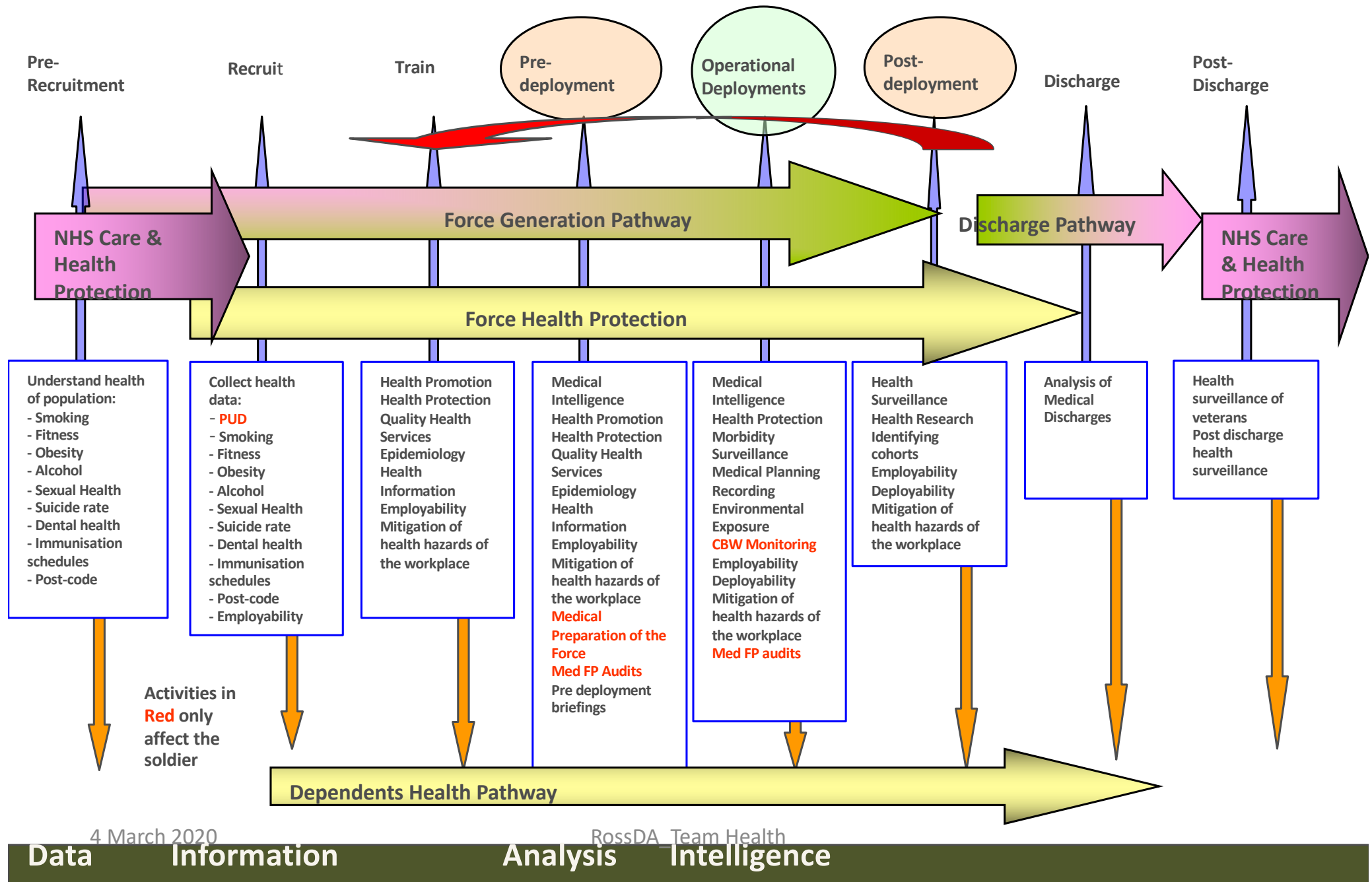
Setting/Scenario



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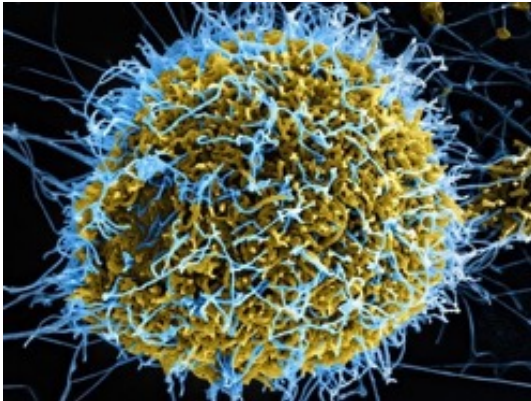
For the purpose of the remainder of this presentation an individual volunteer, who is a healthcare worker going to work for an NGO based in Africa, is seeking advice from a Travel Health Advisor. Some of the key issues that need to be considered will be highlighted using the current evidence base.

The Continuum of Care - Medical Force Protection

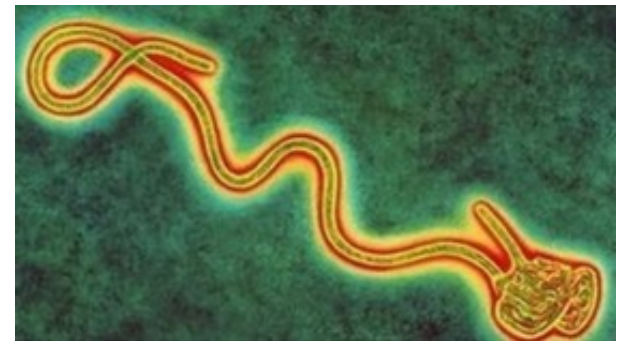




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“Prepare, Sustain & Recover”



The Volunteer



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- Motivation
- Availability
- Psychological Profile
- Physical health
- Team work

By Jo Harrison, aid-worker for ActionAid

11:31AM BST 22 Aug 2014

 52 Comments

As an aid worker living in the Middle East, one of the first things you learn is how to drive to the border. Because if your driver is killed when you're trying to get away? You just have to keep on going.

The alternatives don't bear thinking about. There's a real risk of injury, kidnap - or worse.

In the past month alone, **30 humanitarian aid workers have been killed in Gaza**. And now we're told that **up to 20 more Westerners are being held hostage by Isil** - including many aid workers.

Employer?



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- Language Barriers
- Experience
- Resources
- Governance
- Assurance



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Vaccines for preventing diarrhoea caused by enterotoxigenic *Escherichia coli* bacteria

“There is currently insufficient evidence to support the use of the oral cholera vaccine Dukoral® to protect travellers against ETEC diarrhoea. Based on a single trial in people travelling from the USA to Mexico, the oral cholera vaccine Dukoral® may have little or no effect in preventing ETEC diarrhoea (one trial, 502 participants, *low quality evidence*).”

Prepare



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- Selection
- **Insurance**
- Vaccines
- Malaria
- Food & Waterborne Diseases
- Access to Healthcare
- Training
- Evacuation

Selection



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Individual Considerations



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- Clinical skills
- Ethics
- Environment
- Equipment
- Training

“Screening” Questions



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- Effects on them
- Effects on their home life
- Effects on their career
- Conditions of work of the agency they propose to work with, and its support and funding operations
- Any issues of conscience to consider
- Talking to colleagues in the field
- What it will be like returning home

(Campbell 2005)

Training



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Main Health Threat



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Travellers Diarrhoea



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International Society of Travel Medicine
Promoting healthy travel worldwide
Established 1991

Journal of Travel Medicine, 2017, Vol 24, Suppl 1, S63–S80

doi: 10.1093/jtm/tax026

Original Article

Original Article

Guidelines for the prevention and treatment of travelers' diarrhea: a graded expert panel report

**Mark S. Riddle^{1*†}, Bradley A. Connor^{2*†}, Nicholas J. Beeching³, Herbert L. DuPont⁴,
Davidson H. Hamer⁵, Phyllis Kozarsky⁶, Michael Libman⁷, Robert Steffen⁸,
David Taylor⁹, David R. Tribble¹⁰, Jordi Vila¹¹, Philipp Zanger¹², and
Charles D. Ericsson¹³**

TD – Key Points



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- Definition
- Grade of TD – Mild – Moderate – Severe
- Hand, water & food hygiene
- Antimicrobials for moderate – severe TD
- Loperamide & Fluids for mild TD
- Anti-microbial resistance?
- Self Treatment kits?

Pre-travel	Providers should consider the following in counseling the traveler: (1) Definitions of travelers' diarrhea and severity classification (2) Importance of oral rehydration through fluid and salt intake for all travelers' diarrhea (3) Information on effectiveness of treatments for travelers' diarrhea and the risk of travel, travelers' diarrhea, and antibiotic use with the acquisition of multi-drug resistance bacteria. (4) Provision of empiric treatment medications as indicated by itinerary and provider-traveler determination (5) Intra- and post-travel illness follow-up recommendations			
During Travel	Self-determination of Illness Severity			
	Mild Diarrhea that is tolerable, is not distressing, and does not interfere with planned activities	Moderate Diarrhea that is distressing or interferes with planned activities	Severe Diarrhea that is incapacitating or prevents planned activities	
			Non-dysentery	Dysentery*
	<u>May</u> use loperamide or bismuth subsalicylates	<u>May</u> use loperamide alone or as an adjunct to antibiotics	<u>May</u> use loperamide as adjunct to antibiotics	
		±	+	
		<u>May</u> use antibiotic (Table 2)	<u>Should</u> use antibiotic (Table 2)	
Post-travel	Acute travelers' diarrhea should be treated empirically as above.			
	Microbiologic testing is recommended in returning travelers with severe or persistent symptoms or in those who fail empiric therapy			
	Multiplex molecular diagnostics are preferred in patients with persistent or chronic symptoms			

Malaria



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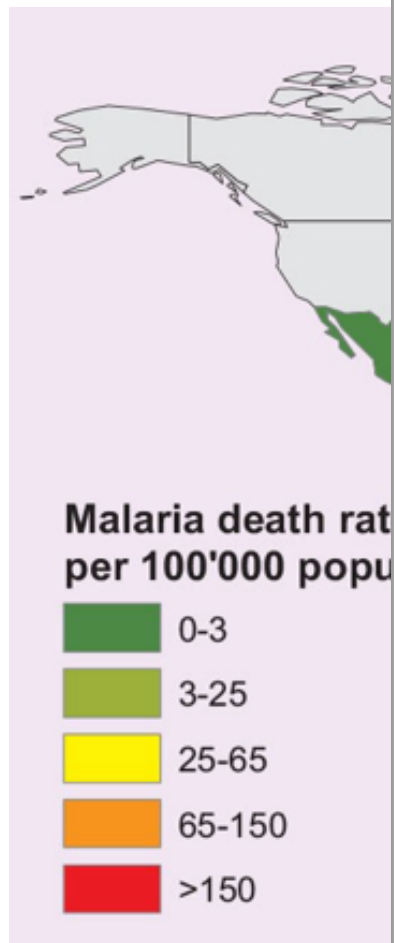
- Individual Risk Assessment
- A, B, C, D
- Pre-impregnated clothing
- Chemoprophylaxis
- RDTs
- Stand by therapy
- Malaria Warning Cards



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Guidelines for malaria prevention in travellers from the UK





J Travel Med. 2015 Nov-Dec;22(6):383-8. doi: 10.1111/jtm.12232. Epub 2015 Oct 1.

Malaria Chemoprophylaxis and Self-Reported Impact on Ability to Work: Mefloquine Versus Doxycycline.

Terrell AG¹, Forde ME², Firth R², Ross DA².

Author information

Abstract

BACKGROUND: It is well known that both mefloquine and doxycycline are commonly associated with adverse effects when taken for malaria chemoprophylaxis. However, the relative impact of these on travelers' ability to work is not so well understood. The aim of this study was to identify which drug has a lesser impact on the ability to work as measured by self-reported severity of adverse effects via a questionnaire.

METHODS: This was a questionnaire-based two-arm cohort study. Participants were soldiers selected from 10 consecutive units training in Kenya during 2012 and 2013. The exposure was either doxycycline or mefloquine and the main outcome measure was impact upon ability to work. Each cohort was advised to take doxycycline or mefloquine with exceptions at the individual level where medically or occupationally advised.

RESULTS: Significantly more ($p < 0.0001$) doxycycline users reported that one or more adverse effects had interfered with their ability to do their job than mefloquine users. Of the 867 mefloquine users, who reported on the impact of adverse effects, 109 (12.6%) reported that one or more adverse effects had impacted upon their ability to do their job, compared to 152 (22.2%) of the 685 doxycycline users who had reported on the impact of any adverse effects. Doxycycline symptoms were predominantly gastrointestinal and dermatological, whereas mefloquine symptoms were neuropsychiatric.

CONCLUSIONS: Self-reported symptoms were common in those that responded and, while the true background rate of adverse effects (off any medication) is unknown, doxycycline had a significantly increased rate compared with mefloquine and was associated with a greater occupational impact. Therefore, this study supports the view that, for organizations which provide malaria chemoprophylaxis to employees free of charge, mefloquine should be the first-choice antimalarial drug where the only alternative is doxycycline.

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Pre-impregnated Clothing



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[Am J Trop Med Hyg.](#) 2015 Oct 7; 93(4): 869–874.
doi: [10.4269/ajtmh.15-0130](#)

PMCID: PMC4596613

PMID: [26195460](#)

Long-Lasting Permethrin-Impregnated Clothing Protects against Mosquito Bites in Outdoor Workers

[Berlin Londono-Renteria](#),^{*} [Jaymin C. Patel](#), [Meagan Vaughn](#), [Sheana Funkhauser](#), [Loganathan Ponnusamy](#), [Crystal Grippin](#), [Sam B. Jameson](#), [Charles Apperson](#), [Christopher N. Mores](#), [Dawn M. Wesson](#), [Tonya M. Colpitts](#), and [Steven R. Meshnick](#)

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Abstract

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Outdoor exposure to mosquitoes is a risk factor for many diseases, including malaria and dengue. We have previously shown that long-lasting permethrin-impregnated clothing protects against tick and chigger bites in a double-blind randomized controlled trial in North Carolina outdoor workers. Here, we evaluated whether this clothing is protective against mosquito bites by measuring changes in antibody titers to mosquito salivary gland extracts. On average, there was a 10-fold increase in titer during the spring and summer when mosquito exposure was likely to be the highest. During the first year of the study, the increase in titer in subjects wearing treated uniforms was 2- to 2.5-fold lower than that of control subjects. This finding suggests that long-lasting permethrin-impregnated clothing provided protection against mosquito bites.

Standby Treatment



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Volume 24, Issue 5
September-October 2017

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Standby emergency treatment of malaria for travellers to low transmission destinations. Does it make sense or save lives?

Ron Behrens, MD, FRCP ✉

Journal of Travel Medicine, Volume 24, Issue 5, 1 September 2017, tax034,

<https://doi.org/10.1093/jtm/tax034>

Published: 18 July 2017 **Article history ▼**

“ Cite Permissions Share ▼

The recommendation for carriage standby emergency treatment (SBET) for malaria is now becoming more widespread across Europe. This follows as a replacement to the withdrawal of recommendations for use of malaria chemoprophylaxis, predominantly therefore to falling transmission of *Plasmodium falciparum* malaria on the successful malaria control programmes across South East Asia and South America.¹ Travellers are prescribed SBET antimalarial medication to carry during their journey. The policy is aimed at travel to areas of low *falciparum* malaria transmission in the above continents, not at travellers to Sub Saharan Africa. They are advised to use the medication when malaria is suspected and prompt medical attention is unavailable, but ideally, to attend a medical centre within 24 h of onset of symptoms for a diagnosis, and if malaria is confirmed, use...

Vaccine Issues



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- Risk Assessment
- Contraindications – Yellow Fever & Immunosuppression

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/655225/Greenbook_chapter_6.pdf Shortages – employer responsibility

- Rabies
- Hepatitis B
- [Dengue]

Rabies

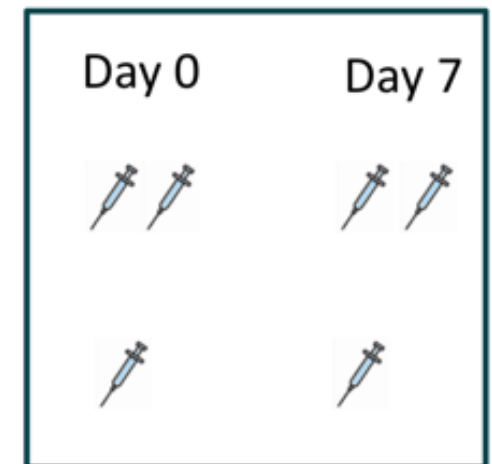


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■ New WHO publication

■ WHO position: online since 15th of Jan 2018: summary of the New Rabies PrEP regimens that are recommended in first line for individuals of all ages are:

- **2-site ID vaccine administration on days 0 and 7**
2ID: (double dose 2x 0.1 ml on day 0 and day 7)
- **1-site IM vaccine administration on days 0 and 7**
2IM: single dose 1x 1ml on day 0 and day 7



The routine classical regimen d0-d7-d28 is a good and valid alternative to the proposed accelerated regimens.

SUMMARY OF 2017 UPDATES

Vaccine Shortages



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Dengue



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Takeda's Dengue Vaccine Candidate Associated with Reduced Incidence of Dengue in Children and Adolescents; New 18-Month Interim Phase 2 Data Published in The Lancet Infectious Diseases

November 7, 2017

- Trial assesses safety and immunogenicity of different schedules of TAK-003 dengue vaccine candidate in children and adolescents ages 2 through 17 living in dengue-endemic areas¹
- Children and adolescents who received TAK-003 had a relative risk of symptomatic dengue of 0.29 (95% CI: 0.13-0.72) compared to children and adolescents in the placebo control group¹
- TAK-003 induced sustained antibody responses against all four serotypes of dengue virus, regardless of previous dengue exposure and dosing schedule¹
- TAK-003 is currently being evaluated in a two-dose schedule, administered three months apart, in the pivotal

To receive email updates about this page, enter your email address:

Most travelers to Africa know to protect themselves from malaria. But malaria is far from the only mosquito-borne disease in Africa. Recent studies have revealed that dengue, a disease that is well recognized in Asia and the Americas, may be commonly misdiagnosed as malaria in Africa. So if you're traveling to Africa, in addition to taking anti-malarial medications you should also take steps to [avoid dengue](#).

4 March 2020

RossDA_Team Health

Venomous Animals



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<http://iramc.bmj.com/content/iramc/early/2018/04/05/iramc-2017-000883.full.pdf>

Snakebites in Africa and Europe: a military perspective and update for contemporary operations

Daniel Wilkins,¹ D S Burns,^{2,3} D Wilson,^{3,4} D A Warrell,⁵ L E M Lamb^{3,6}

ABSTRACT

Snakebite envenoming is rare among military patients, with few cases reported in recent years. Increasingly, however, military operations are taking place in remote parts of Africa, which are inhabited by numerous species of venomous snake, and in Europe, where dangerous species exist but are less common. Bites from a venomous snake may prove fatal, and therefore military medics must be adequately prepared to manage them. This paper reviews the most medically significant species of

Key messages

- ▶ Snakebites in the military are rare.
- ▶ Bites can lead to risk to life if not managed correctly.
- ▶ This review assesses the guidance on how to manage snakebites in Africa and Europe.

Sustain



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- Training
- SOPs
- Communication
- Malaria
- Medications
- Alcohol
- Sexual Health
- Mental Health
- Families
- Resilience

Sexual Health



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- Education
- Reach back service
- PEPSE

Distress/Resilience



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Risk and protective factors for the course of post-traumatic stress disorder in frontline workers after the Christchurch, New Zealand earthquake.

Disaster Prevention and Management 2018 27 (2) 193-206

McBride,D and Porter,N.

Families Left Behind



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- Media Overload
- Anxiety Separation
- Stress Reaction
- Re-integration – “Loo Syndrome”

Recover



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- Screening
- Quarantine
- Management of cases
- Mental Health
- Follow Up

Zika



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Public Health
England



Royal College of
General Practitioners

Zika virus infection: guidance for primary care

Introduction

There is an ongoing outbreak of Zika virus infection, mostly focussed in South and Central America and the Caribbean. Based on a growing body of research, there is scientific consensus that Zika virus is a cause of microcephaly and other congenital anomalies (also referred to as congenital Zika syndrome) and Guillain-Barré syndrome (World Health

Undifferentiated Febrile Illness



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- Protozoa **malaria**, leishmaniasis, trypanosomiasis
- Bacteria enteric fever, brucellosis, **Q fever**
- Spirochetes leptospirosis, relapsing fever
- Rickettsia **typhus (louse, flea, tick or mite-bourne)**,
 bartonellosis
- Arboviruses dengue, chikungunya, **sandfly fever**,
 Japanese B encephalitis, West Nile fever,
 dengue haemorrhagic fever, yellow fever,
 CCHF
- Other EBV, CMV, hantavirus, **Lassa fever, Ebola**
- Non-infect^s Heat illness, malignancy, auto-immune
 disorders etc

Seroconversion for Infectious Pathogens among UK Military Personnel Deployed to Afghanistan, 2008–2011

Edmund N.C. Newman, Penelope Johnstone, Hannah Bridge, Deborah Wright, Lisa Jameson, Andrew Bosworth, Rebecca Hatch, Jenny Hayward-Karlsson, Jane Osborne, Mark S. Bailey, Andrew Green, David Ross, Tim Brooks, and Roger Hewson

- 16% of military cases unable to pass a fitness test at 1 year



Ann Epidemiol. 2011 Sep;21(9):666-72. doi: 10.1016/j.annepidem.2011.05.004. Epub 2011 Jul 7.

Coming home: social functioning and the mental health of UK Reservists on return from deployment to Iraq or Afghanistan.

Harvey SB¹, Hatch SL, Jones M, Hull L, Jones N, Greenberg N, Dandeker C, Fear NT, Wessely S.

Author information

Abstract

PURPOSE: There is speculation that high rates of mental illness among Reservists returning from deployment to Iraq and Afghanistan may be due to the challenge of reintegrating into civilian life. We aimed to examine the postdeployment social functioning of Reservists and to explore the relationship between adverse postdeployment experiences and subsequent mental ill health.

METHODS: A sample of 4,991 UK military personnel who had deployed to either Iraq or Afghanistan were asked about their postdeployment experiences with a particular focus on their levels of social integration, perceived support from the military, and civilian employment. All participants were asked to complete a series of validated measures of mental health.

RESULTS: Compared with Regular personnel, Reservists were more likely to feel unsupported by the military and to have difficulties with social functioning in the postdeployment period. Perceived lack of support from the military was associated with increased reporting of probable posttraumatic stress disorder (PTSD) and alcohol misuse. Low levels of non-military postdeployment social support and participation were associated with increased reporting of common mental disorder, probable PTSD, and alcohol misuse.

CONCLUSIONS: Many Reservists find the transition from military deployment to civilian life difficult. Differences in postdeployment experiences may explain some of the increased rates of mental ill health among Reservists.

Summary



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- Volunteers may not have fully considered all the implications of humanitarian work
- Selection of volunteers needs to be robust
- Risk assessment +++
- Mental health resilience discussion essential
- Assurance of NGO sector lacking
- Don't forget those left behind
- Long term health surveillance