

Mountain Post Medical Update



Smallpox

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Smallpox is a contagious, sometimes fatal infection that can be prevented by vaccination with a live vaccinia vaccination. Although the World Health Organization (WHO) declared naturally occurring smallpox eradicated from the world by the late 1970s, there is concern that there may be clandestine stores of smallpox that could be used as a biological weapon. By international agreement, only two repositories are approved for stocks of smallpox virus, one at the CDC in Atlanta and one at the State Center for Virology and Biotechnology in Koltsovo, Russia. The former Soviet Union weaponized tons of smallpox viruses and several countries are suspected of trying to

develop smallpox as a biological weapon.

A smallpox outbreak would significantly affect military readiness. An outbreak would degrade combat-mission capability among vulnerable troops; stress military medical operations to maximum capacity; restrict military operations; limit transit of international boundaries; and divert military manpower for health care or crowd control.

Smallpox is a contagious disease caused by the variola virus. Historically, smallpox killed 30% of those infected. Smallpox involves sudden onset of fever with malaise, headache, vomiting, and then an eruption of a deep-seated rash.

The lesions of this rash contain live variola virus. These lesions can leave a person severely scarred, especially on the face.

The most common way of being infected with smallpox is to inhale the virus on droplets during face to face contact (less than 6 feet distance) with a contagious person. Direct contact with the infected skin lesion will also transmit the virus.

Fortunately a vaccine was developed utilizing a virus that is similar to smallpox known as vaccinia. The smallpox vaccine utilizes live vaccinia viruses to evoke an immune response that protects against variola (the smallpox virus). Histori-

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Upcoming Wellness Center Events:

- Tobacco Cessation Session: Next 4 Week Session starts 7 January 03

(Each Session is comprised of 4 classes)

- Stress Management Classes every Wednesday at 1300 hrs

- Anger Management Classes every Monday at 1300 hrs

- NCO Taping Certification will be on 21 Dec 02

- Healthy Cooking Classes every other Friday

- Walk in Blood Pressures and Cholesterol checks every day

Wellness Center is located in Building 1526, 526-3887

Supplement Use

“Dietary Supplement” is a general term for a variety of products. Under current US law, manufacturers of dietary supplements are not required to provide proof of safety or effectiveness to the Food and Drug Administration (FDA). Many marketers of these products take advantage of this by labeling their products as die-

tary supplements while making claims regarding medicinal and other value.

Examples of dietary supplements include vitamins, minerals, amino acids, proteins, plant products, glandular extracts, and other animal products. Some of these products have been found to have some spe-

cific benefits, but many have been shown to be harmful. Even those products with some potential benefit do not have the same testing and production standards as prescription medications to ensure quality. Products of the same type may have widely varying concentrations of the active

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Supplements Continued

ingredients or contamination with potentially dangerous substances. Even if a product has been shown to have some reported benefit, usually this benefit is small; without a guarantee to the consumer of quality control, the actual concentration of the active ingredient may be so small that any potentially beneficial effect is negligible.

Below is a summary of medical information regarding several supplements commonly used by soldiers to enhance performance:

Ephedra-

Also known as ma huang

Products containing this include: Ripped Fuel, Therma Pro

This substance is claimed to increase metabolism. It is a stimulant, but this same effect also increases the risk of heart problems, heat injury, stroke, muscle damage, and even death. Exercise and dehydration increase the risk of these problems. Some prescription medications and even common over-the-counter items such as cold medications interact with ephedra and greatly increase risk as well. Both the NCAA and the state of Florida ban the use of Ephedra. Since 1993, ephedra has been linked to more than 40 deaths and the FDA has received more than 800 reports on adverse reactions to the herb. Foods containing caffeine such as coffee, tea, and cola worsen the effects of ephedra.

Creatine-

Products containing this include:

CreaVate, Phosphocreatine Powder, Metaform products, Creatine Fuel, and Betagen.

Creatine is promoted as a strength and muscle mass builder. Its actual mechanism of action appears to be to increase water retention, so that while muscle mass does look greater, it's due to water, not actual muscle tissue. There is conflicting evidence for any strength benefit from creatine. Notably, swimmers and bicyclists did not perform better while

taking it. Any benefit in short-term high intensity performance will be negated if you also take caffeine. Finally, any muscle size or strength gain caused by creatine will disappear when you stop taking it. There is some evidence that creatine may affect the kidneys.

Protein Powder-

Products containing protein powder are easily identified as such. According to labeling, one serving of these powders provides 36-42 grams of protein, with 240-300 Kcal (calories). Someone can get the same amount of protein by eating the whites of three boiled eggs (18 grams) plus 3 cups of milk (24 grams). Using skim milk, the number of calories is the same. Eggs and milk are both free in the dining facilities. There is no specific added nutritional benefit from protein powder; in fact most of these proteins are derived from milk. Eating more protein than what is included in common American diets has been shown to have no effect on strength and muscle mass, and may have negative effects on kidneys.

One item not used for enhancing performance but often discussed for self medication of depression is:

St. John's Wort-

St. John's Wort is promoted as an aid for depression. Some medical research has shown a possible benefit in treating depression, but not as great as with prescription medications. Because of the lack of quality control to ensure that the concentration of the active ingredient is consistent, users of this product can't predict what the effect will be. The safety of this particular product is not known, while there is extensive evidence demonstrating the safety and identifying particular effects of prescription antidepressant medications. Recently the FDA has reported serious interactions between St. John's Wort and some prescription medications.

If you take any items labeled as "dietary supplements," you should understand the

potential health risks, as well as whether medical research has shown any benefit. Also, if you suffer any bad effects from taking such substances, you should report them to the FDA. You can do this on the internet on the FDA's web site:

www.fda.gov/medwatch/how.htm

You can find more information on dietary supplements at that site. Other useful web sites are:

Office of Dietary Supplements, National Institutes of Health:

<http://dietary-supplements.info.nih.gov>

National Center for Complementary and Alternative Medicine:

<http://nccam.nih.gov>

Military personnel on flight status must not take such products until cleared by a flight surgeon. One final note- substances sold in some countries may be illegal in the United States, and may result in positive urine drug screening tests.

Finally, the United States Army Center for Health Promotion does have a website discussing various uses of herbs that may be of medicinal value. Go to:

<http://chppm-www.apgea.army.mil/dhpw/Wellness/dietary/GenRes.aspx>

There are dieticians in the MEDDAC as well as the Wellness Center who are available to answer your questions.

Congress defined the term "dietary supplement" as a product taken by mouth that contains a "dietary ingredient" intended to supplement the diet. Consumers now spend well over 7 billion dollars on these products.

Smallpox Continued

cally, smallpox vaccine protected more than 95% of healthy people who received it. Like all vaccines, however, there are potential rare but serious adverse reactions. The smallpox vaccine also causes an unusual set of potential adverse reactions which warrant additional education, screening, and monitoring before, during, and after smallpox vaccination. For every one million doses of smallpox vaccine given to a previously unvaccinated adult, serious adverse reactions can be expected that include cases of auto-inoculation (touching the vaccination site and spreading the vaccinia viruses to the eyes, genitals, or other body sites to include spread to non-vaccinated contacts), skin reactions known as progressive vaccinia, and rare serious neurologic reactions (post-vaccinal encephalitis).

The Department of Defense on 30 September 2002 authorized the implementation of a DoD wide Smallpox Response Plan. This plan focuses on preparations required to respond to a potential smallpox outbreak (a single case of confirmed smallpox infection would be classified as an outbreak). The DoD has also authorized the vaccination of up to 5000 first responders and 25,000 medical personnel who may be required to respond to an outbreak and begin the outbreak investigation and initiate select vaccination. Further guidance is pending on vaccination as a pre-emptive measure for US Forces. Contact MEDDAC Preventive Medicine or the Division Surgeon for more information.

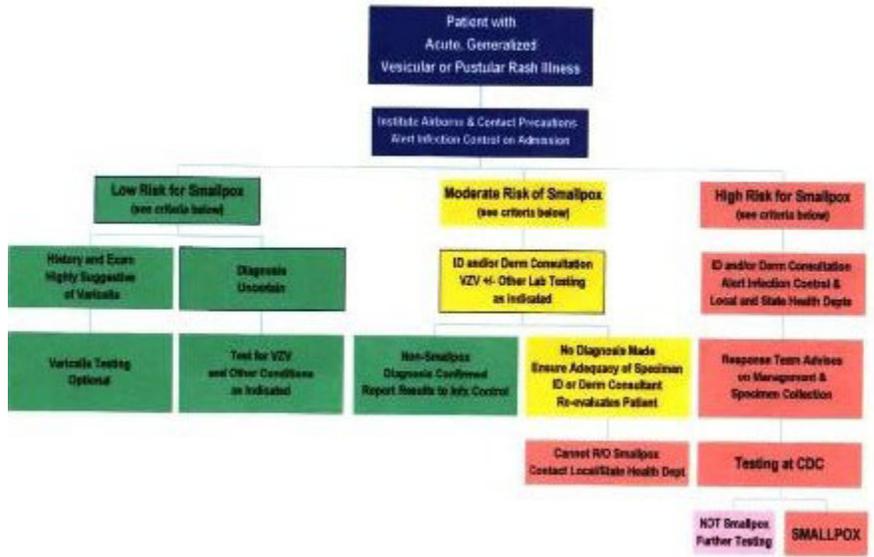


Figure 1: Clinical Guide to smallpox identification



Figure 2: Smallpox lesions on a child. Note that the lesions are greater on the face than on the

91 W Training Status Report

	91W	TR	%	Y2	% Y2	EMT	EMT EXP	NEED	NEED
	ASSIGNED	COMPLETE	TR'D	REMOVED	REMOVED	EXPIRED	March-03	BTLS	BNCOC/AIMS
MEDDAC	101	51	50%	39	39%	34	26	40	33
3BCT	172	61	35%	48	28%	52	43	141	100
3ACR	182	82	45%	67	37%	51	51	101	91
43rd ASG	188	70	37%	56	30%	70	67	57	106
Other	10	2	20%	0	0%	4	3	9	2
Total	653	266	41%	210	32%	211	190	342	339

Figure 3: 91W transition training status as of 1 December 02

7th Infantry Division and the Mountain Post

7th Infantry Division Surgeon
 HHC, 7th ID
 Fort Carson, CO 80913
 526-3904

Director of Health Services
 USAMEDDAC
 Fort Carson, CO 80913
 524-4016

Weekly DNBI Trends

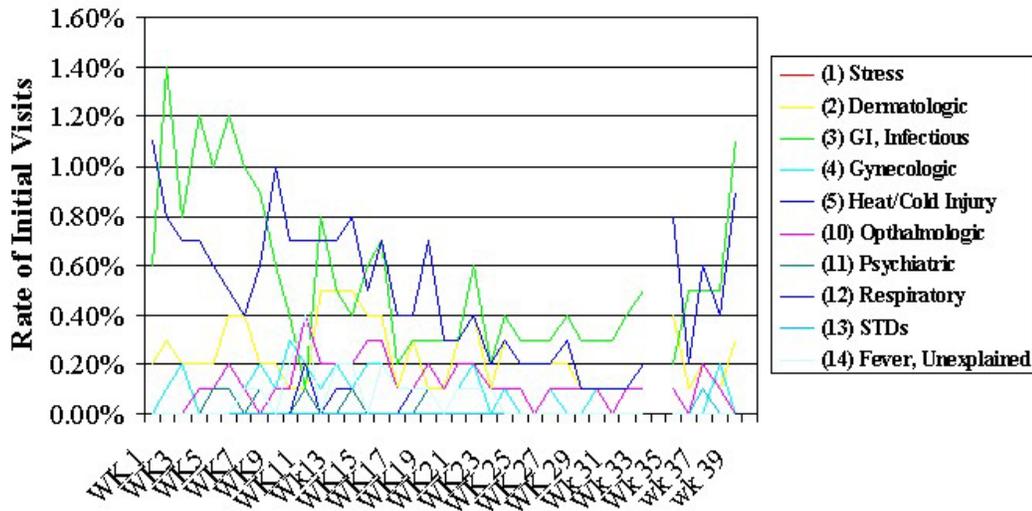


Figure 4: DNBI Rates: Number of initial sick call visits to TMC and aid stations by disease category/Total number of soldiers on Fort Carson. Some units are not re-

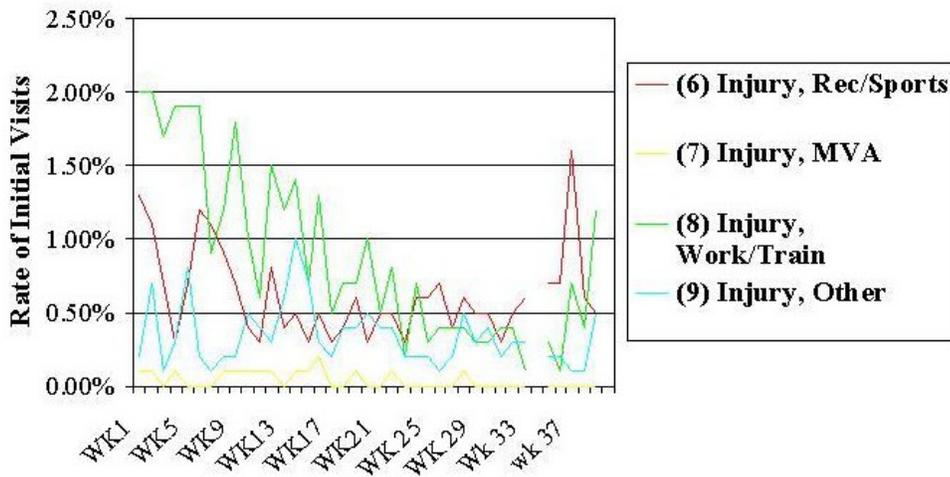


Figure 5: Injury Rates: Number of initial sick call visits to TMC and aid stations by mechanism of injury/Total number of soldiers on Fort Carson. Some units are not reflected in this total.