

# TOP KNIFE FIGHTER SURGEON COURSE

173 Fighter Wing  
Kingsley Field Oregon

RSV-1D

WATER AND FOOD VULNERABILITY

# Criterion Referenced Objectives

- Discuss the threats posed to our military water and food supplies
- List of the responsibilities of various agents to include BES, PH, Base/MTF/Flight Medicine Commanders, the SGP, and the AMC regarding water and food safety
- Describe the flight surgeon's role in maintaining food safety

# Overview

- Water vulnerability
  - Threats
  - Responsibilities
  - Flight surgeon's role
  - References
- Food vulnerability
  - Threats
  - Responsibilities
  - Flight surgeon's role
  - References



# Water Vulnerability: The Threat

Air Force water supplies can be credible targets to inflict casualties and disrupt mission-essential operations. In addition to traditional terrorists and militant groups, the threat posed by insiders (e.g., disgruntled employees or contractors), criminals, vandals, or other disenfranchised individuals who have various motivations must always be considered. Inherent water system design characteristics that present numerous access points, increased interest in asymmetrical attack methods by operatives, and dependencies on non-AF water suppliers and contract operators are just some of the security challenges facing AF risk managers today.

- USAF Water Vulnerability Assessment Technical Guide

# Water Vulnerability Assessment

- Responsibilities
  - Identify control deficiencies that can lead to water degradation and/or supply disruption
  - Estimate corresponding levels of risk posed to personnel and mission-essential operations
  - Propose practical control recommendations and advocate their implementation
  - Develop inputs for the Core Vulnerability Assessment Management Program (CVAMP)
  - Educate stakeholders on water vulnerability and risk-related issues

# WVA Responsibilities

- Bioenvironmental Engineering Services (BES)
  - Performs potable water surveillance for the protection of public health and regulatory compliance
  - Informs the installation commander and provides prompt notification to the Civil Engineer or Environmental Management of potable water issues that could impact public health or result in open enforcement actions from regulatory agencies

# BES Responsibilities Cont.

- Provides guidance for potable water monitoring and quality standards
- Performs sampling for contaminants
- Ensures analysis by State approved methods and laboratories
- Conducts sanitary surveys and vulnerability assessment of potable water systems
- Monitors aircraft watering points
- Interprets all analytical results

# BES Responsibilities Cont.

- Maintains system records
- Performs trend analysis
- Reports reportable occurrences and results to installation commander and Environmental Protection Committee
- Assists in public notification of potable water issues
- Conducts, in conjunction with Civil Engineering, an installation wide cross-connection hazard survey every five years, or as determined by the State



# BES Responsibilities Cont.

- Conducts engineering reviews of repairs and modifications to potable water systems
- Determines and conducts SAM as necessary
- Reviews construction and modification plans and drawings to assess and avert health hazards to the water system

# BES Responsibilities Cont.

- Advises commanders on ground water protection opportunities, physical modifications to enhance water treatment and distribution systems, and alternative management practices to meet compliance requirements and enhance water quality
- Deploys to contingency sites where potable water is of significant concern as determined by MAJCOM SG

# Flight Surgeon's Role in WVA

- This is a bioenvironmental program!
- If you can, go see what your bioenvironmental tech does and learn something
- If your BE team is sharp, all you do is monitor



# WVA Reference

- AFI 48-144 Drinking Water Surveillance Program

# Food Vulnerability: The Threat

- Salad bars contaminated with *Salmonella*--751 ill and over 125 hospitalized in Dalles, Oregon (“small potatoes!!”)
- Milk contaminated with *Salmonella*--estimated over 200,000 illnesses in Chicago
- Ice cream and *Salmonella*--estimated 250,000 illnesses nationwide
- Powdered milk contaminated with arsenic--over 130 deaths in Japan
- Arsenic painted on bread of Nazi prisoners by Jewish non-state assassins--estimated >200 dead
- Apple juice and *E. coli* 0157:H7--over 70 sick and one death \$31 million loss in stock in one day

# Food Vulnerability: The Threat

- DoD top 10 risk agents
  - Anthrax
  - Botulinum toxin
  - Plague
  - Ricin
  - Smallpox
  - Encephalitis viruses
  - Ebola/marburg
  - Tularemia
  - Staph. Enterotoxins
  - Glanders
- Foodborne illness agents
  - Anthrax
  - Botulinum toxin
  - Plague
  - Ricin
  - Tularemia
  - Staph. Enterotoxins

# Food Vulnerability: The Threat

- Chemical Warfare Agents
  1. Nerve agents (liquid, vapor)
  2. Blister agents (liquid, vapor)
    - Mustard
    - Lewisite
  3. Choking agents
    - Phosgene
    - Chlorine
  4. Blood agents
    - Cyanide type agents
  5. Riot control agents
    - Tear agents
- Condemn foods exposed to nerve and blister agents
- Choking agents and riot control agents – wash food
  - Expose to air 24 hr, can cause food to be unpalatable
- Cyanide unlikely to produce dangerous contamination aerosolized

# Responsibilities

- Base Commander
  - Establish a Food Safety Program (FSP) compliant with FDA Food Code
  - Ensures deploying personnel briefed on all mission threats to include food threats
- Procurement Offices
  - Ensure food contracted only from approved sources
  - PH is local authority on approved sources



# Responsibilities

- Food Facility Managers
  - Ensure proper storage, serving, and preparation of food
  - Perform regular self-inspections
  - Ensure workers comply with medical standards
- MTF Commander
  - Ensures sanitary inspections performed



# Responsibilities

- Aeromedical Council (AMC)
  - Sets schedule for sanitary inspections of food facilities based on previous inspection results and threat of food borne illness
  - Determines medical requirements for workers
- Flight Medicine Flight Commander
  - Schedules times for FSs to perform inspections
  - Coordinates with SGPM to pair FSs with SGPM personnel performing inspections
  - Incorporates inspections into new FS orientation (48G1) training schedule.

# Responsibilities

- **Public Health Office (SGPM)**
  - Performs sanitary evaluations that assess: compliance with Food Code, effectiveness of food safety training, procurement of food from approved sources, food storage practices, effectiveness of self-inspections performed by food service supervisors, pest management, and food security
  - Provides or approves initial food handler training and provides annual food service supervisor training
  - Develops and annually exercises food borne illness investigation plans

# SGPM Responsibilities Cont.

- Communicates with local civilian authorities regarding trends in food safety hazards including food borne illnesses
- Ensures food delivered from prime vendors inspected by trained, responsible end-user with maintenance of vendor quality history
- Inspects food delivered from non-prime vendors on arrival for: approved sources, temperature control, sanitary condition of delivery vehicle and packaging
- Performs surveillance of government owned subsistence for wholesomeness

# SGPM Responsibilities Cont.

- Monitors quantity, location, serviceability of operational rations (MREs)
- Initiates and closes out ALFOODACT investigations
- Ensures completion of a food vulnerability assessment

# MTF/SGP Specific Role

- Provides professional oversight of FSP activities and exercises
- Comments through appropriate channels on effectiveness of program, training of personnel including flight surgeons
- Encourages integrated team approach including Flight Medical Clinic (SGPF), SGPM, Services Squadron, Security Forces (for food security), and MTF health care providers (including IDMTs).

# FVA References

- AFI 48-101 Aerospace Medical Operations
- AFI 48-116 Food Safety Program



# Take Home Points

- Terrorism is not confined to traditional CBRNE attack
- WVA is a BE program, and all you *should* need to do is monitor
- FVA is a PH program, and you need to be involved
- Not *everything* flight surgeons do is fascinating, but it can still be important
- Next slide for quiz instructions



- [Go to quiz](#)
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