A large naval ship is silhouetted against a bright sunset over the ocean. The sun is low on the horizon, creating a long, shimmering reflection on the water's surface. The sky is a mix of orange and blue, and the overall scene is peaceful and majestic.

Medical Care on a Super Carrier

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Standard Disclosure

- All those involved in the planning and development of this presentation have **"NOTHING TO DISCLOSE"**
- The views expressed in this presentation are those of the author and do not necessarily reflect the official policy or position of the Department of the Navy, Department of Defense, or the US Government.
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Overview

- Carrier Strike Group (CSG) / (CTF)
 - Mission, Structure, Composition
 - CSG Health Services Assets
- Aircraft Carrier
 - Mission, Capabilities
- CVN Health Services
 - Composition, Capabilities, Staffing
- Medical Conditions and Challenges
 - Medical Evacuation
 - Training

Carrier Strike Group - Mission

- Sea Control and Protection of commercial and military shipping
- Power projection ashore during wartime missions
- Protection of USMC amphibious operations
- Establish air supremacy in designated areas
- Supporting US diplomacy through cooperative engagement
- Humanitarian Assistance /Disaster Relief (HA/DR)



Ships of CTF70 and JSDF during Exercise Keen Sword 2013

Carrier Strike Group - Ships

- Aircraft Carrier (CV/CVN)
- Guided Missile Cruisers (CG)
- Guided Missile Destroyer (DDG)
- Attack Submarines (SSN)
- Combat Support Ship (MSC)

Guided Missile Cruiser

- Ticonderoga Class
- Airspace defense with AEGIS radar
- Tomahawk shooter
- Medical Capabilities: 1 IDC, 2 HMs
- SH-60 Helo detachment



Guided Missile Destroyer

- *Arleigh Burke* class
- Tomahawk shooter
- Medical: 1 IDC

USS Lassen during the recent Cooperation Afloat Readiness and Training 2012 Thailand.



Carrier Air Wing

- Carrier Air Wing FIVE (CVW-5) base Atsugi, Japan
- Squadrons
 - 4 F/A-18 (VFA)
 - 1 EA-18G (VAQ)
 - SH-60 (HS)
 - E-2 (VAW)
 - C-2 Det (VRC)
- Medical Assets
 - 2 Flight Surgeons
 - Physician Assistant
 - 1 AVT per squadron



Aircraft Carrier



- Significant medical capability
- Not as robust as large Amphib
- Not a casualty receiving ship

USS GEORGE WASHINGTON CVN 73

- Nuclear-powered supercarrier.
- Sixth ship in the *Nimitz class*.
- Fourth United States Navy ship to be named after George Washington, the first President of the United States.
- Built by Newport News Shipbuilding and was commissioned 4 July 1992.

- Length of flight deck - **1,092 feet** (~333 meters)
 - Total height, from keel to mast - **244 feet** (~74 meters), a 24 story building.
 - Width of flight deck (at the widest point) - **257 feet** (~78 meters)
 - Total area of flight deck - **4.5 acres** (~1.8 hectares)
 - Fully loaded displacement (the weight of water displaced by the ship when in full combat mode) - **97,000 tons**
-
- Weight of each propeller - 66,200 pounds
 - Weight of each anchor - 30 tons
 - Weight of anchor chains - 360 pounds
 - Weight of each rudder – 45 tons

“Hajimemashite”

*CVN73 Arriving into new home port
at Fleet Activities Yokosuka, Japan
25 SEP 2008*





U.S. Navy and Japan Maritime Self-Defense Force ships steam in formation with aircraft carrier USS George Washington (CVN 73) at the culmination of ANNUALEX 2008.

Source:

<http://www.navy.mil/management/photodb/photos/081119-N-8842M-182.jpg>

- Number of compartments and spaces onboard – 2,500+
- Number of telephones onboard - 2,500+
- Number of televisions onboard - 3,000+
- Air conditioning plant capacity - 2,250 tons (enough to cool 2,000 houses)
- Four distilling units can make 400,000 U.S. gallons (1,500,000 L) of potable water a day.
- Storage capacity for refrigerated and dried food: enough to feed 6,000 people for 70 days.
- Food service divisions serve 18,000 meals per day.
- Mail processed every year by onboard post office - 1 million pounds.





Industrial Setting



CVN Health Services

- Medical Department
- Dental Department



CVN HS Officer Billets

- Total 19 Officers
- Senior Medical Officer (AsM & FP/EM/other)
- Senior Dental Officer
- Family Physician
- General Dentists (4)
- General Surgeon
- Oral Surgeon
- Air Wing Flight Surgeons (2)
- Physician Assistant (2)
- Critical Care Nurse
- Clinical Psychologist
- Physical Therapist
- Medical Administrative Officer
- Radiation Health Officer

- Anesthesiologist or Nurse Anesthetist (TAD)



CVN HS Dept Enlisted Manning

- Total 39 Corpsmen
 - 1 HMCS, 2 HMC
 - 2 Independent Duty Corpsmen
- Ratings:
 - Laboratory, X-Ray, Pharmacy
 - Operating Room Technicians
 - Preventive Medicine
 - Aviation Medicine
 - Radiation Health, Administration
 - Biomedical Equipment Repair
 - Physical therapy, Psychology, Dental Technicians
 - 8-9 Airwing Squadron HMs (AVTs)



CVN Medical Facilities

- Inpatient Ward - 48 Beds
 - 2 Isolation Rooms - 4 Beds Each
- Intensive Care Unit - 3 Beds
- Trauma / Resuscitation Room
- Main Operating Room
- Laboratory, Radiology, Pharmacy
- Aviation Medicine, Audiology
- Eye lane / Spectacle fabrication
- 6 Battle Dressing Stations
- Dental: 7 dental operatories, X-ray, lab

CVN Surgical Capabilities

- Single Operating Room
- 2 OR techs
- Laparoscopy
- Endoscopy
 - EGD
 - Colonoscopy
 - Bronchoscopy



CVN Medical Capabilities

- Intensive Care Unit
- 3 Beds
- IMPACT vents
- Bedside monitoring
- Functions as PACU



CVN Medical Capabilities

- Inpatient Ward
- 48 racks
- Average daily use while deployed: 3
- 1 nurse, 1-2 ward HMs



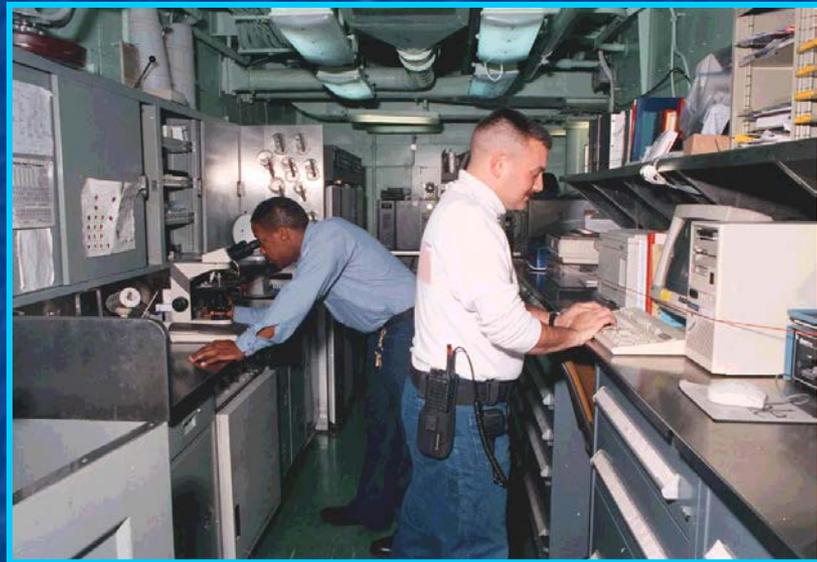
CVN Pharmacy

- Single pharmacy technician
- Broad selection:
350+ Medications
 - Antibiotics
 - Analgesics
 - NSAIDS
 - Decongestants
 - Anti-emetics



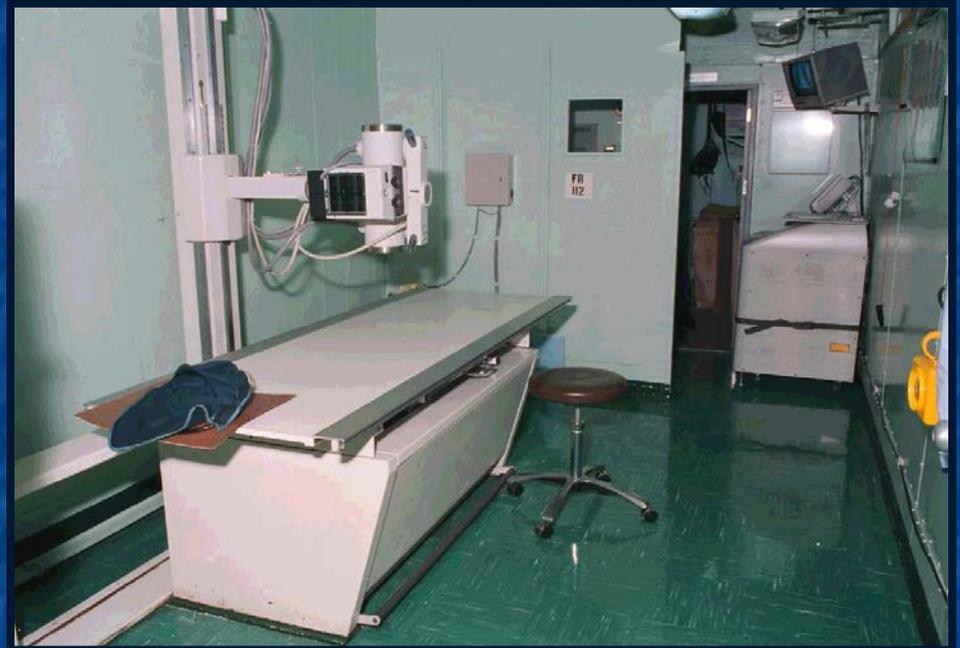
CVN Laboratory

- 2 lab techs
- Capabilities:
 - Full chemistry
 - Cardiac Enzymes
 - PT/PTT
 - Hematology
 - Microbiology
 - Blood Gases
- iSTAT, Abxis Piccolo® xpress™, Vitros



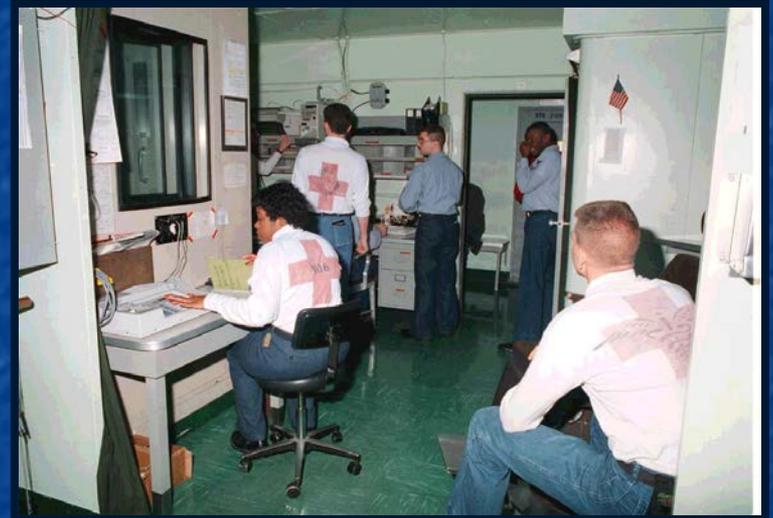
CVN Radiology

- Single Radiology technician
- Ultrasound
- Computed Radiology
- Teleradiology
 - Films read by Naval Hospital Bethesda, MD



Occupational and Preventive Medicine Programs

- Physical Examinations
 - Aviation
 - Ionizing Radiation
 - Women's Health
- Hearing Conservation
- Heat Stress Prevention
- Optometry – refraction, fabrication
- Potable Water Analysis and Pest Control
- Sanitation and Food Service Monitoring



Monthly Workload - Deployed

■ Sickcall Visits	344
■ Acute care	502
■ Physicals	811
■ Prev Med	967
■ Lab Tests	4053
■ X-Rays	179
■ Pharmacy Units	2661
■ Surgery (Major/Minor)	4/16
■ Emergency Responses	7
■ MEDEVACs	21



Data from SEP 2012

Common outpatient presentations

- Viral Upper Respiratory Infections
- Lacerations, contusions, concussions
- Musculoskeletal strain/sprain
- Dermatitis, dermatophytosis
- Viral gastroenteritis (Norovirus)



Mental Health Presentations

- Suicidal thoughts
- Suicidal behavior
- Depression
- Anxiety
- Posttraumatic stress
- Psychosis (rare)



Inpatient Admissions

- Pneumonias
- Febrile Respiratory Illnesses (Flu)
- Severe dehydration
- Severe Headaches
- Post surgical care
 - Appendectomy



MEDEVAC

- MEDEVAC traditionally refers to use of using predesignated tactical or logistic aircraft, boats, ships, and other watercraft temporarily equipped and staffed with Medical attendants for en route care.
- MEDEVAC has generally implied the use of rotary wing aircraft with medical attendants (MA).

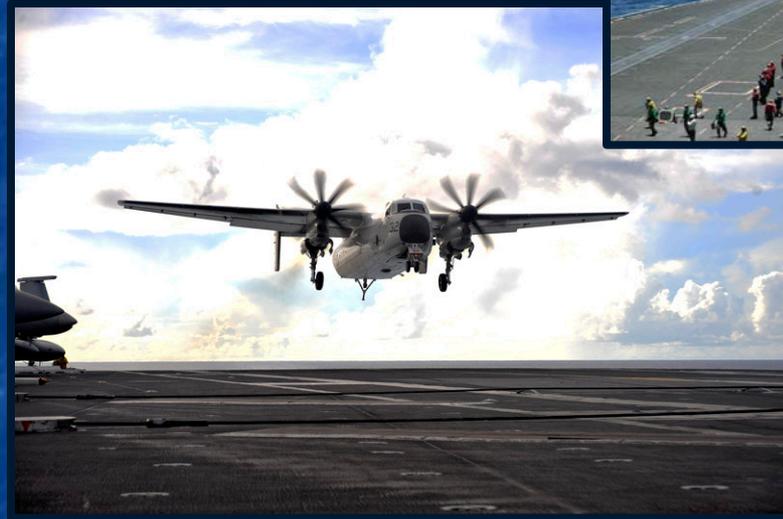
MEDEVAC Aircraft

- SH/HH-60 *Seahawk*
- *Conversion to MH-60S*
- Vertical hoist
- 1-2 litters plus 2-3 attendants (HH-60)
- 450 nm range
- 140 knots
- Medical SAR/AVT



MEDEVAC Aircraft

- *C-2A Greyhound*
- 28 passengers (seated)
- Reconfigurable cargo area
- Open rear ramp
- 300 knots
- 1300 nm range
- Catapult launched



Medical Readiness

- **Medical readiness elements**
 - PHA
 - Deployment limiting conditions
 - Dental readiness
 - Laboratory studies
 - Individual medical equipment
 - Immunizations

- **Goal is >90% of ship's crew are medically ready to deploy to sea.**

Six Components of Medical Readiness

Periodic Health Assessment (PHA) – Full Physical, & annual Preventive Health Assessment.

Deployment Limiting Conditions (DLC) – Medical or dental conditions that preclude deployment until resolved.

Dental Readiness – Determines overall dental fitness.

Readiness Laboratory Studies – Blood type, DNA, G6PD, Sickle Cell Trait, & HIV.

Individual Medical Equipment – 2 pairs of glasses, gas mask inserts, hearing protection.

Immunization Readiness – Mandatory vaccines for the prevention of infectious diseases. (Hep A, MMR, Td, IPV & Yellow Fever)

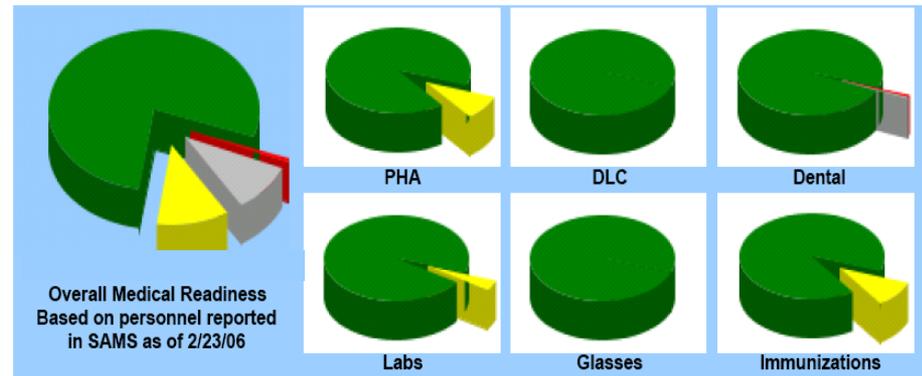
Levels of Medical Readiness

Fully Medically Ready - current in all categories including dental class 1 or 2.

Partially Medically Ready – lacking only immunizations, readiness laboratory studies, or medical equipment.

Not Medically Ready – deployment limiting condition (including hospitalized or convalescing from serious illness/injury), or dental class 3.

Readiness Indeterminate – inability to determine health status because of missing information.



IMR Elements	Fully Ready	Partially Ready	Indeterminate	Not Ready
Overall Readiness	287 (78%)	41 (11%)	36 (10%)	3 (1%)
Periodic Health Assessment	333 (91%)	N.A.	34 (9%)	
Deployment Limiting Conditions	367 (100%)	N.A.	N.A.	0 (0%)
Dental Readiness <i>DHI:204 (56%)</i>	ODR: 362 (99%)	N.A.	2 (1%)	3 (1%)
Readiness Laboratory Studies	353 (96%)	14 (4%)	N.A.	N.A.
Individual Medical Equipment	367 (100%)	0 (0%)	N.A.	N.A.
Immunization Readiness	330 (90%)	37 (10%)	N.A.	N.A.

Annual Medical Readiness Inspection

Six areas of MRI covered:

- Administration (SAMS and IMR)
- Supplies (>90%)
- Emergency Medical Preparedness (100%)
- Ancillary services (Lab, X-ray)
- Environmental Health
 - Water,
 - Ship Sanitation Control Certificate (SSCC)
 - Hearing and sight conservation)
- Health maintenance (Immunizations, PHA)

Training





QUESTIONS?