



ACTIVE LIVING

Navy Health Promotion and Wellness Course



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NOFFS: 21st Century Sailor Performance Training System



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Presentation Objectives

1. **BACKGROUND:** Address the identified need for human performance training in the U.S. Navy.
2. Introduce the Navy Operational Fitness & Fueling System (NOFFS) --- purpose, development, methodology, & evaluation.
 - Operational Fitness (Demos Included)
 - Operational Fueling (Nutrition)
3. Discuss the current status of NOFFS.
4. Address the execution & delivery of NOFFS.



NOFFS: 21st Century Sailor Performance Training System



"NOFFS is the perfect solution for staying physically fit in confined spaces It combines smart nutrition and a viable workout to provide our Sailors with the **21st Century tools** to continue to be an active part of our Navy's culture of fitness.

Stay healthy, stay fit, stay Navy!

MCPON Mike Stevens, December 2012



NOFFS



- Recognized by **SECNAV** Ray Maybus -- 21st Century Sailor Plan. -- Instructed in **CFL** training.
- Identified in the National Prevention Strategy.
 - DoD National Prevention Strategy
- Included in Joint Task Publications via the **CJCS** Total Force Fitness Plan.
- **Release of NOFFS NAVADMIN 169/12. May 2012.**
- Submitted for CNO “Top 50” Awards - 2012.

NOFFS Key Components

SURFACE SHIP SERIES - LEVEL 1



Navy Operational Fitness Series

NAVY OPERATIONAL FUELING





Purpose

To provide the Navy with a foundational and evidence – based performance training resource:

Focus of the product is

- 1: Improving operational performance (not just the PRT)
- 2: Decreasing the incidence/severity of musculoskeletal injuries
- 3: Foundational nutrition – the basics

Goal is to provide a complete physical training program that will “eliminate the guesswork” for the

- 1: Individual Sailor that is participating in his/her personal exercise and nutrition program
- 2: Tool for the Navy health and fitness professional



Navy Operational Fitness & Fueling System - NOFFS



➤ **Mission:**

- Decrease musculoskeletal injury among Sailors
- Increase retention - healthy force
- Improve operational performance & physical readiness (resiliency / durability)

➤ **Goal:** Deliver a standardized physical fitness program Navy - wide

NOFFS: The Product

- **Specialized Series For:**

- Submarines
- Surface Ships
- Large Decks
- Group Physical Training
- Operational Fueling

- **Eliminates the Guesswork**

- **Solution for**

- Confined spaces
- Equipment availability

LARGE DECK SERIES **WARM UP + STRENGTH - LEVEL 2**

Select 1 Strength Option:
FIT KIT EQUIPMENT or FULL EQUIPMENT

Stage	A	B	C	D
Reps	12	10	8	6

Option B: Strength - Full Equipment has strength rather than mass advantage of FULL EQUIPMENT using dumbbells and body weight as the primary source of resistance. This component designed to strengthen the movement needed to perform on an operational platform. Select a resistance that you feel challenged with and pay close attention to the quality of your movement.

	Circuit 1	Circuit 2
Short	42	42
Medium	42	42
Long	42	42

Circuit 1

BENCH PRESS - ALTERNATING DUMBBELL

Keeping one arm straight, lower the other dumbbell until your arm just breaks parallel with the deck, then push it back up. Keep your supporting arm straight with feet flat on the deck. Keep hips & shoulders on the bench during the movement. Alternate sides each rep.

Circuit 2

SQUAT TO OVERHEAD PRESS - DUMBBELL

Squat hips back & then pull. Hips are parallel with deck. Return to standing by pushing through your feet. At top of stance, grab dumbbells straight overhead. Keep weight on ankles and do not let knees collapse during the movement.

2

BENCHMAN DEADLIFT - 1 LEG DUMBBELL

Keep straight line from ear to ankle, hinge at waist & always use leg behind you. Return to the starting position by contracting your hamstring & glutes. Keep back flat, shoulder blades back & down during movement & keep the dumbbells close to your feet. Complete reps, repeat on opposite side.

LATERAL PILLAR BRIDGE - W/ ABDUCTION

Lie on side with knees on deck, feet stacked together. Arms allow under shoulder, push your hip off the deck, straight line from ankle to shoulder. Lift your leg leg into the air as if you were doing a lateral jumping jack. Complete reps, repeat on opposite side.

3

SPLIT SQUAT - REAR FOOT ELEVATED DUMBBELLS

Place your back foot up onto a box or bench behind you. Drop hips forward over by lowering your front knee without letting your back knee touch the deck. Return to starting position by pushing up with your front leg. Complete reps on one leg, then switch legs & repeat.

ONE-LEG KNEELING SQUAT - KNEELING DUMBBELL

Start in kneeling position, holding dumbbells with arms at your sides. Keep elbows at your hips. Lift dumbbells to shoulders as you extend your joints to the ceiling. Keep your stomach & the glute muscles of your rear leg tight throughout the movement. Switch forward leg half way through the set.

4

BENT OVER ROW 1 ARM 1 LEG DUMBBELL

Keep straight line from ear to ankle, hinge at waist & always use leg behind you. Slide shoulder blade toward hip. Lift weight to body by driving elbow to ceiling. Keep your back bent, always leg slightly abducted & shoulders parallel to the deck. Complete reps, repeat on opposite side.

CRUNCHES

Lie Supine with knees bent & hands across your chest. Lift chest up until shoulder blades are off the deck & return your pelvis towards your heels. Slowly return to starting position & repeat for prescribed reps.



Operational Fitness Key Components

- 1. Pillar Preparation**
- 2. Movement Preparation**
- 3. Strength**
 - **Fit Kits**
 - **Dumbbells**
- 4. Cardiovascular**
- 5. Recovery**



See COACHING TOOLS section on NOFFS Website



Operational Fueling Key Components

- **Introduction**

- Eat Clean
- Eat Often
- Hydrate
- Recover
- Mindset

- **Performance Nutrition Fundamentals**

- **10 Rules to Live By**

Eat Clean Eat Often Hydrate Recover Mindset

EAT THE RAINBOW CR COLOR

Fruits and Vegetables

- Fruits and vegetables are a great source of high fiber carbohydrates.
- Fruits and vegetables provide our body with a combination of vitamins that cannot be replicated in a supplement.
- Different colors serve different roles in the body.
- Aim for at least 3 colors at every meal.
- Over the course of the day, strive to eat 2 servings of fruit and 3 servings of vegetables.

COLOR CODE OF RESTORATIVE NUTRITION

- Yellow Foods:** Optimize brain functions
- Red Foods:** Supports heart and circulation
- Green Foods:** Rejuvenates muscles and bone
- White Foods:** Enhances immune system, lymph system, and cellular recovery
- Orange Foods:** Supports skin and connective tissue
- Purple Foods:** Promotes microcirculation

Bottom row: Four small photos showing food preparation and a logo.



Operational Fueling Key Components

- **The Big Three: Carbohydrate, Protein, Fat**
- **Eat the Rainbow**
- **Fuel Up “Three Every Three”**
- **Hydrate**
- **Recovery Nutrition: Don’t Waste Your Workout**
- **Male & Female Meal Builder**

Eat Clean Eat Often Hydrate Recover Mindset

DON'T WASTE YOUR WORKOUT

Recovery in 3's: Pre, During, and Post-Workout

Post Workout

- The sooner you get your post workout nutrition, the quicker you recover.
- Your recovery snack or meal – such as a granola bar with at least 5g of protein or a fruit smoothie – makes up one of your 5 - 6 meals per day.

THE OPEN WINDOW OF OPPORTUNITY TO GET YOUR BODY THE NUTRIENTS IT NEEDS FOR RECOVERY.

10 minutes
30 minutes
60 minutes
90 minutes
120 minutes

• **Re-Fuel** • **Re-Build** • **Re-Hydrate**

Within 10 minutes of training:

What do you need to recover?

BODY WEIGHT (POUNDS)	GRAMS OF PROTEIN	GRAMS OF CARBOHYDRATE
120 - 150	15 - 20	30 - 60
150 - 180	20 - 25	40 - 75
181 - 215	25 - 30	50 - 90
215 - 245	30 - 35	60 - 105

1. Refuel with carbohydrate
The more intense the training, the more carbohydrate you need.

2. Rebuild with protein
Protein needs post workout are based on body weight.

3. Rehydrate with fluid
Drink 20-24oz of fluid for each pound lost during training.

Examples:

- 20oz low-fat chocolate milk + banana
- Turkey and pasta salad
- Tuna sandwich w/ baked chips
- Meal replacement bar + 20oz sports drink
- Scrambled eggs or egg whites with whole wheat toast and 6oz juice
- Turkey sandwich + yogurt
- Spagheti and meatballs
- Fruit smoothie blended with yogurt or whey protein

NOFFS

Identifying the Need





Importance of Human Performance for Operational Readiness

- **Human Performance**
---- **not just physical fitness**
- **Transition of Force ---**
Performance demands have changed.
Environment (Sailor) has changed.
- **Tasked with doing more with less** = injury free & physically fit to perform duty.
- **Much more than just PRT....**



EODMU 1, Bahrain, 2010



Injury Impact



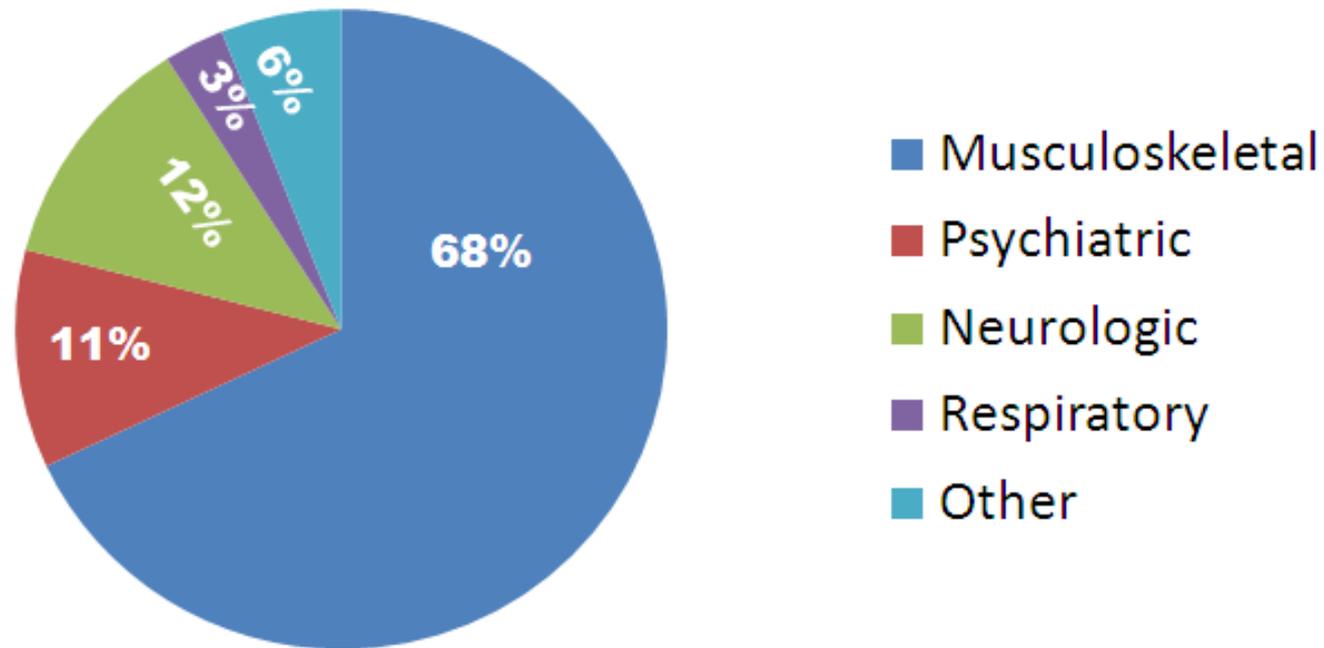
Injuries impose a greater ongoing negative impact on the health and readiness of the U.S. Armed Forces than any other category of medical complaint during peacetime & combat.

*Reference: Jones, B.H. and Hansen, B.C. AJPM
Military/Injury Supplement, January 2010*



Injury Impact

Top Diagnosis of "Unfitting Conditions" in the Navy & USMC 2000 - 2008.

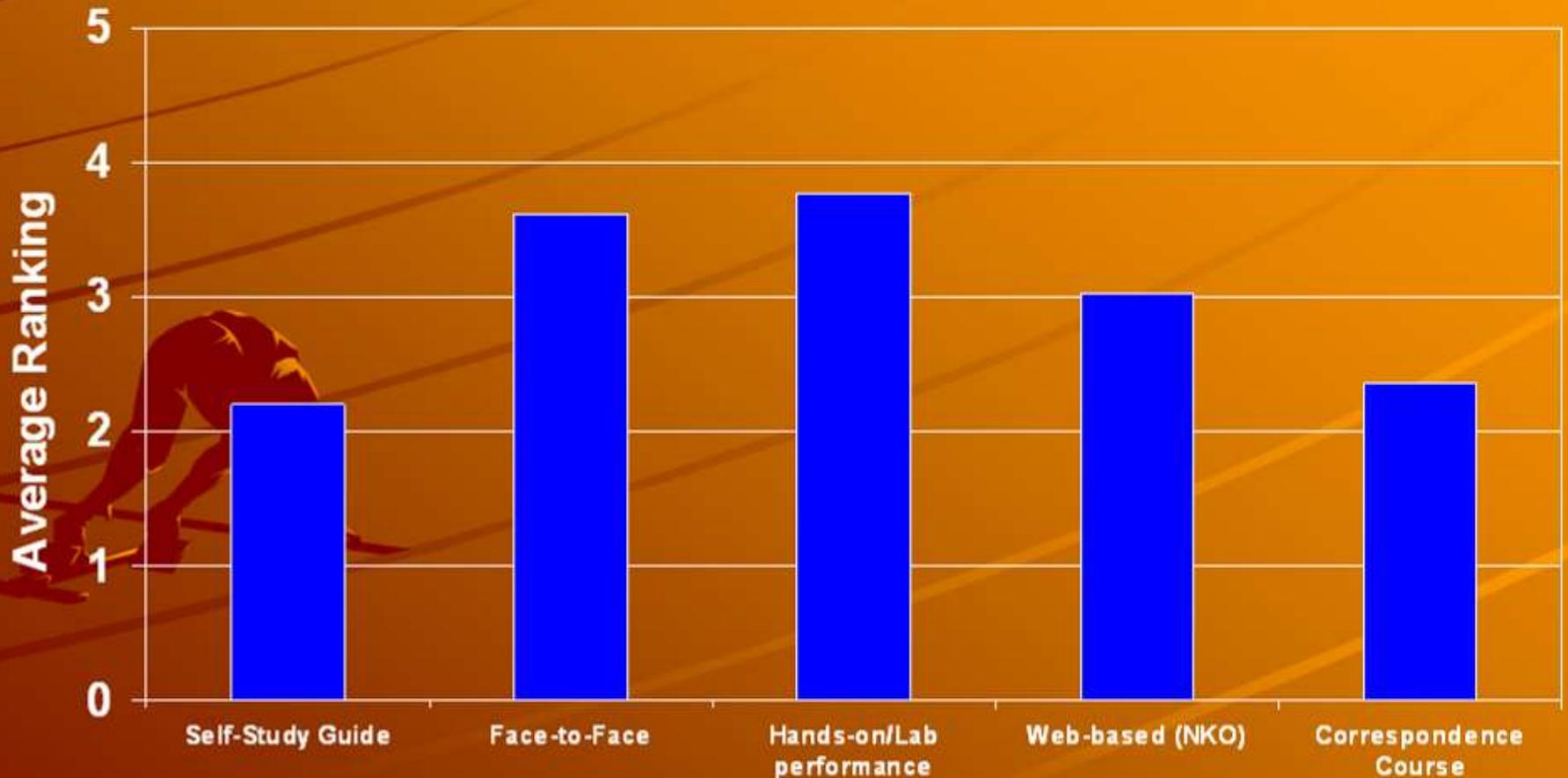


Injuries from Physical Training Affect Readiness

Physical training and sports injuries are of particular concern. Based on the likelihood of success in decreasing injuries having the greatest impact on military readiness, the Defense Safety Oversight Council (DSOC) recommends that the greatest reduction of lost duty days due to injuries across DoD may be achieved via mitigation efforts focused specifically on **sports-and physical training related injuries.**

*DSOC, DoD Military Injury Prevention Priorities Working Group:
Leading Injuries, Causes,
and Mitigation Recommendations, Feb.2006.*

With “1” being your lowest and “5” your highest preference, rank order the following in terms of how you would prefer to receive your CFL training.





ACSM Industry Guidelines

05 July 2011



Industry Components:

- Cardiorespiratory (Aerobic)
- Resistance
- Flexibility
- Neurometer

What is missing?

Sailors told us.



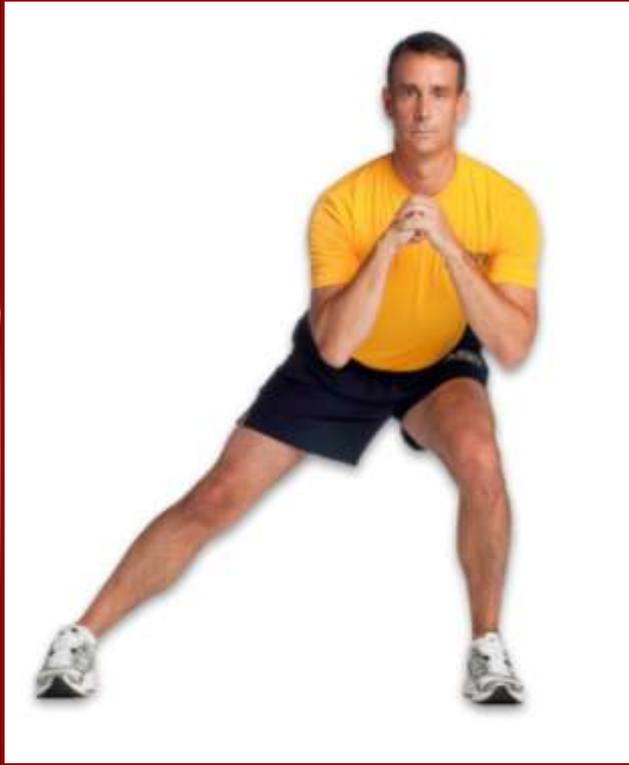


Key Issues for U.S. Navy

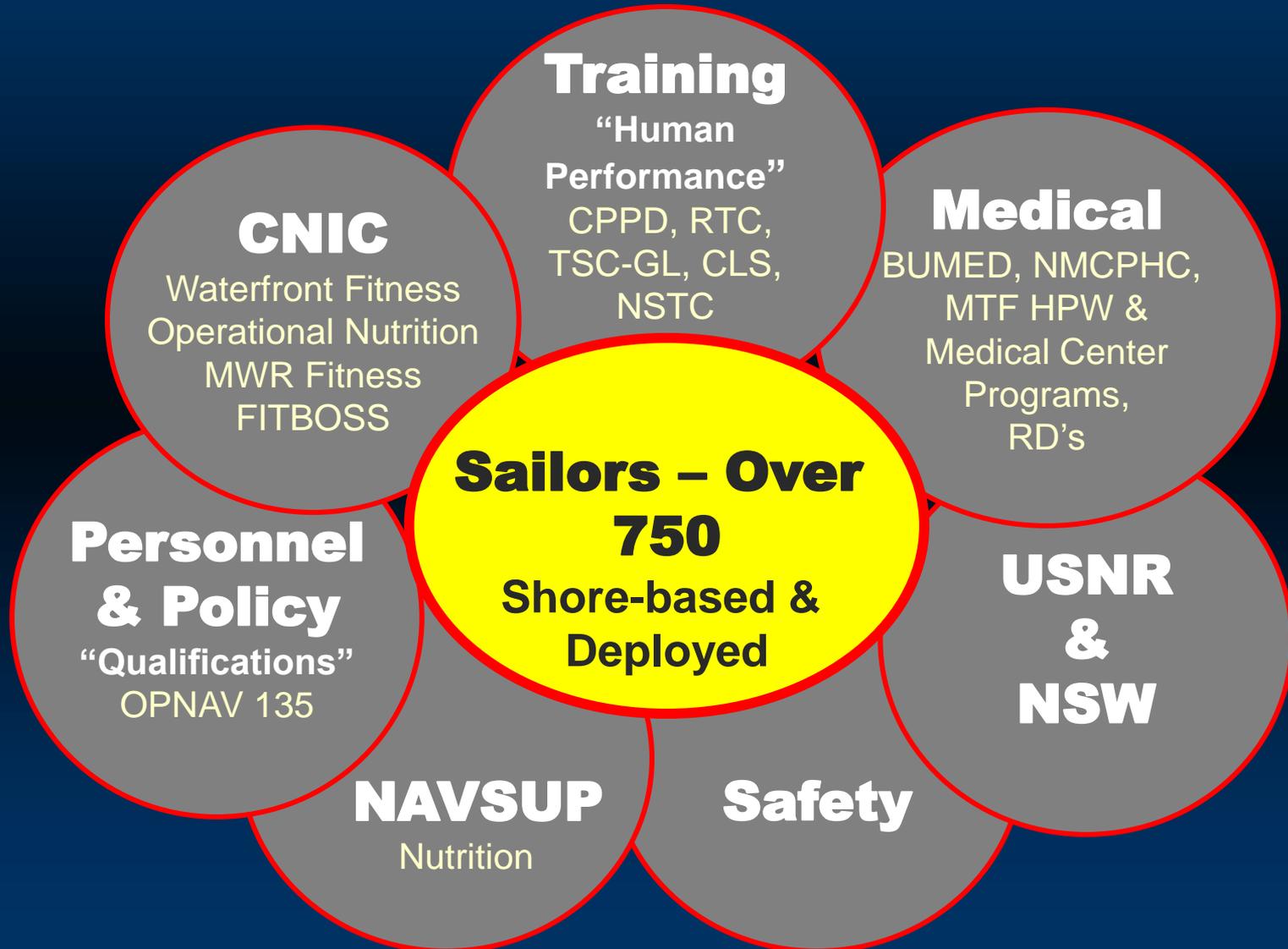


- Confined space issue.
- Equipment availability issue.
- Access to SME is sometimes limited due to remote locations – detached from MWR.
- Performance programming not standardized.
Competing with controversial COTS programs.
- “Eliminate the guesswork” programming needed.

Developing NOFFS



Project Fitness & Nutrition Experts



Athletes' Performance Partnership

- Athletes Performance Institute (API)
 - Professional sports model
 - Human performance & injury prevention winning record.
- Trains over 1000 professional athletes world-wide.
- Trained last 5 NFL #1 draft picks.
2012 – Top 4 NFL Picks
Andrew Luck - #1
- Affiliated with The Andrews Institute.
 - Dr. James Andrews
- Working with Navy - over 10 years.



Human Performance Advisors - TYCOM

Culinary Specialist

Command Fitness Leader

Health Promotion Coordinator

Physical Therapist – large deck

FITBOSS

Fleet Waterfront Fitness

Independent Duty Corpsmen

Leading Chief Petty Officer - Medical

Focus Groups:

- E-3 – E – 6
- E-7 – E-9
- Officer
- FEP

Chief of the Boat
CMDPCM

Executive Officer
Commanding Officer

FORCMS – TYCOM
FLTCMS, MCPON

Fleet Baseline Needs Assessments

- **USS GEORGE HW BUSH (CVN-77)**
- **USS BOISE (SSN-764)**
- **USS DEVASTATOR (MCM-6)**
- **USS MONTEREY (CG- 61)**
During Deployment
- **VFA 11 “Red Rippers”**



Nutrition Site Visits



USS PINCKNEY (DDG – 91)

USS PRINCETON (CG 59)

USS BENFOLD (DDG-65)

USS BUNKERHILL (CG-52)

USS JOHN PAUL JONES (DDG-53)

Naval Air Station Lemoore



Operational Performance

Does the workout or activity relate to the demands on the job?

SPECIFICITY:

Physical training movements that mimic actual job related movements.



Lifting





Lifting

Pushing



Lifting

Pushing

Pulling



Lifting

Pushing

Pulling

Carrying



Aerobic & Anaerobic Demands



Body
Movement
Skills

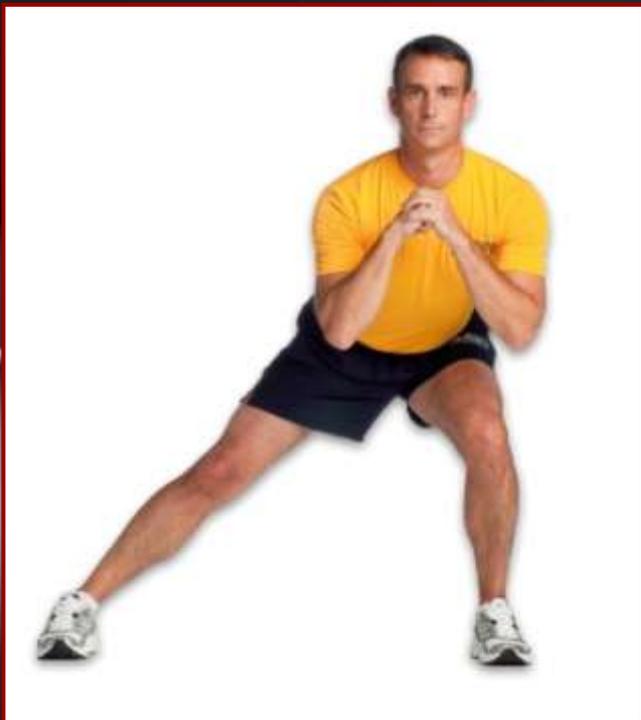
Balance
Agility
Coordination

Kinesthetic
Awareness



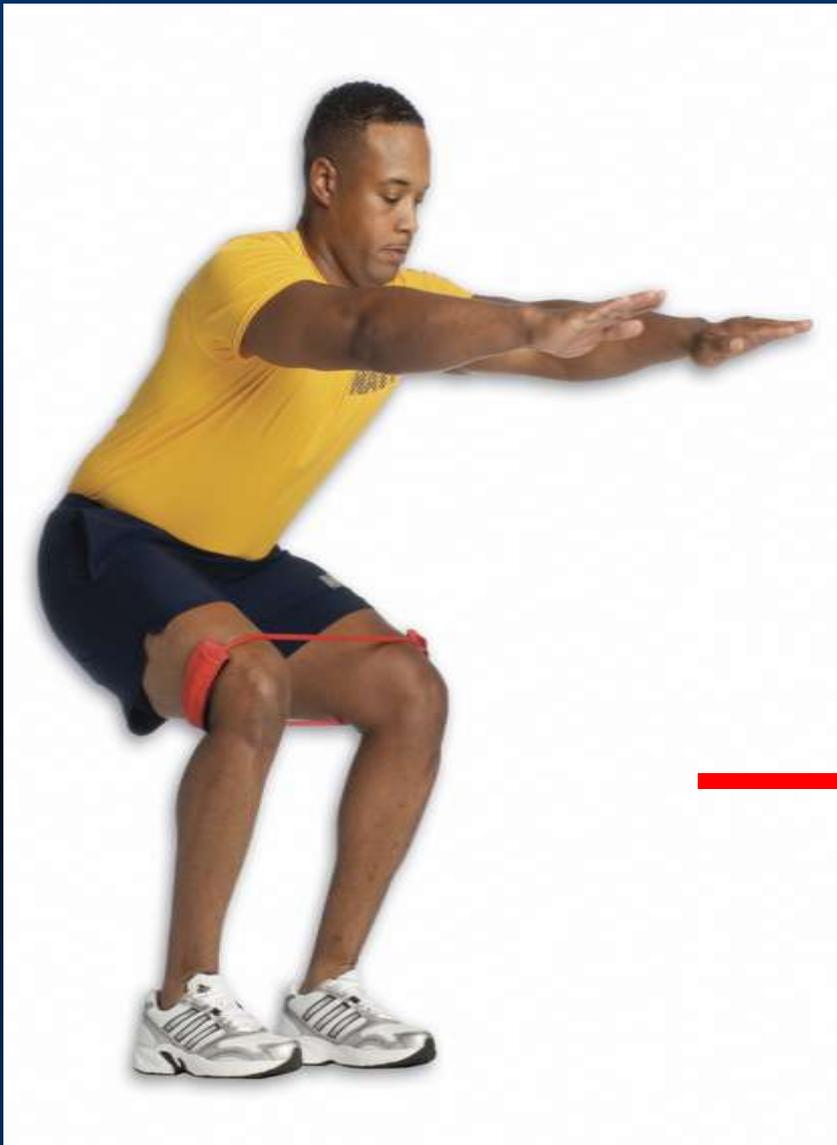


Bent Over Row w/h Dumbbells



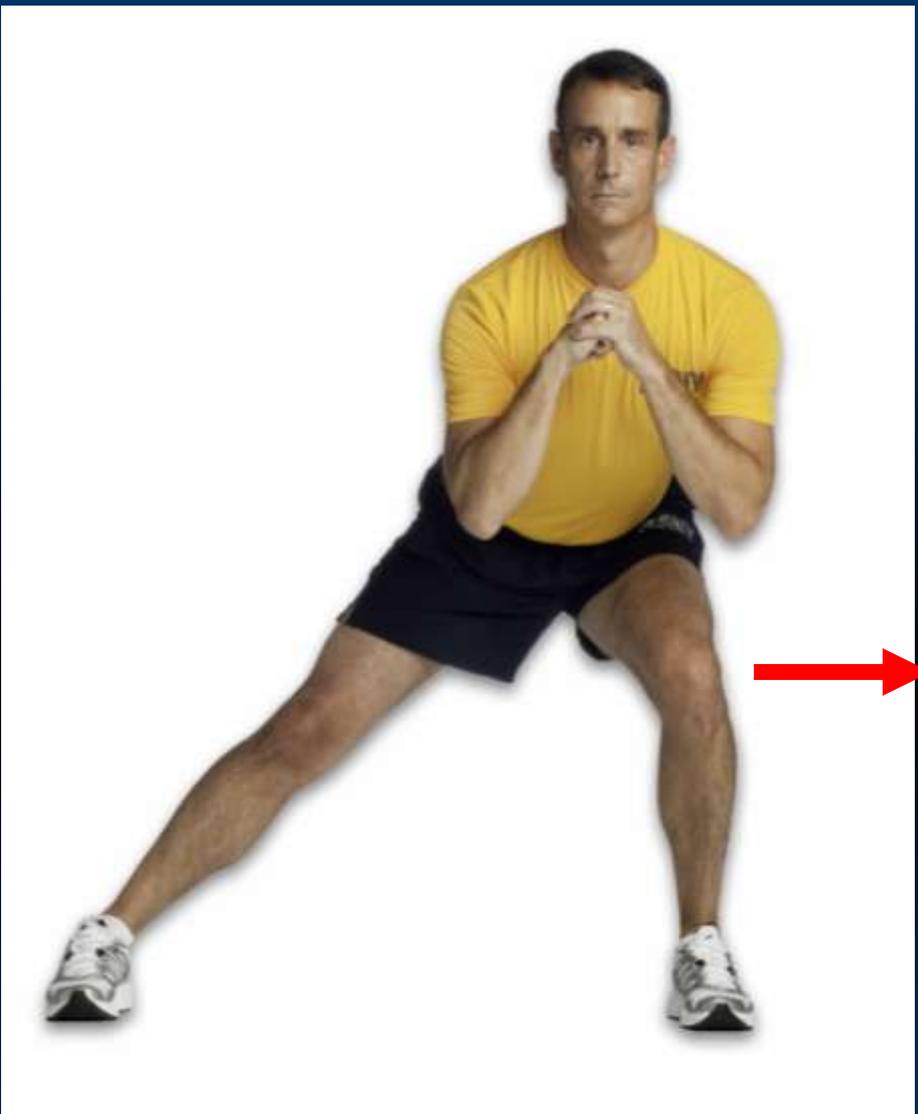
Lateral Squat – Low Alternating





Squat with Miniband





Lateral Squat Low Alternating



Lateral Squat Alternating w/ Dumbbells





90 / 90 Stretch

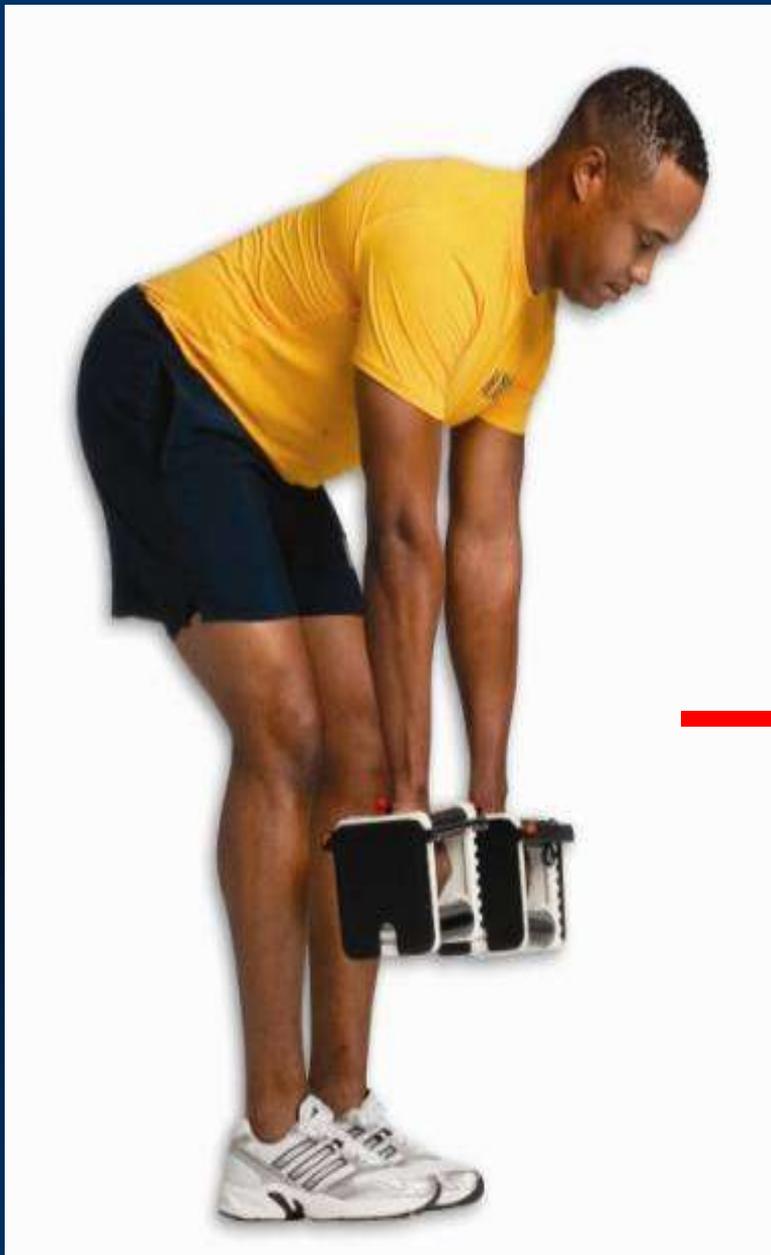






Bench Press - Dumbbell





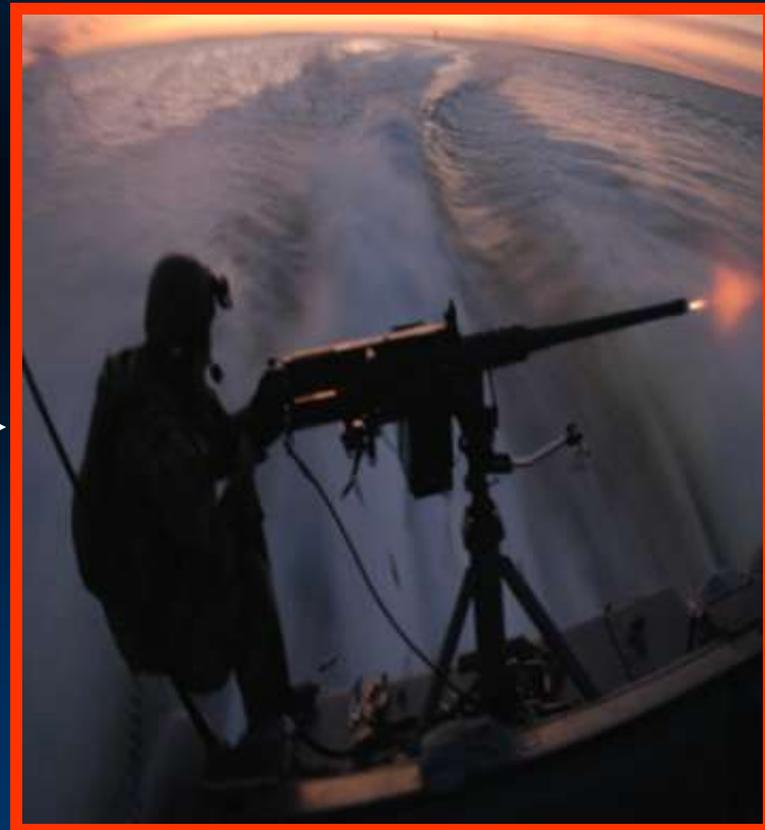
Romanian Deadlift (RDL) - Dumbbells





Squat – 1 Arm Dumbbell

Specificity of Training - Resiliency



Functional Movement = Improved Performance & Injury Prevention



Delivering NOFFS Navy-Wide





Delivering NOFFS

1: Partner with local MWR Fitness Expert!

- First get trained in teaching NOFFS
- Over 150 trained instructors world-wide

2: Get acquainted with NOFFS Website &/or NOFFS I – Phone Application

- www.navyfitness.org/noffs
- Link to NOFFS website for all resources
- Practice NOFFS movements (picture/video)

3: Obtain needed equipment ---

- Designed for large group PT & confined spaces



NOFFS Delivery - Installations





NOFFS Website: What it offers



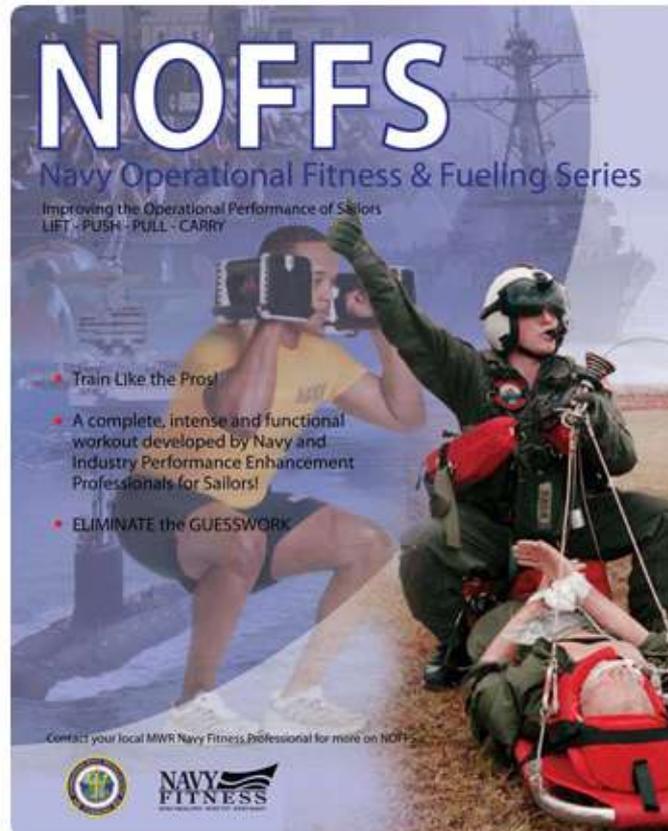
Navy Operational Fitness and Fueling Series [www/http://www.navyfitness.org/fitness/noffs/](http://www.navyfitness.org/fitness/noffs/)

Purpose

The Navy Operational Fitness and Fueling Series (NOFFS) is designed to provide the Navy with a "world-class" performance training resource for Sailors, as well as Navy health and fitness professionals. Using the latest sports science methodologies, the logic engine for NOFFS combines both human performance and injury prevention strategies, resulting in safer training while yielding positive human performance outcomes. The exercises used in the NOFFS product are designed to replicate the activities Sailors conduct in their operational duties: lifting, pushing, pulling and carrying. Developed as a complete fitness package, the Fueling aspect of this resource provides Sailors with the tools required to make healthy nutrition choices in both shore-based and operational environments.

Background

In 2009, Navy Subject Matter Experts (SMEs) began reviewing the existing exercise programs to determine how to best improve performance and



[Project Overview](#)

[Product Review](#)

[Methodology](#)

[Training Program Intro](#)

[Coaching Tools](#)

[CFL Introduction](#)

[Equipment](#)

[Movement Library](#)

[Virtual Trainer](#)

[Virtual Meal Builder](#)

[Locate a Trainer](#)

[Marketing Tools](#)

[Downloads](#)

[FAQ](#)

[NOFFS Instructor Survey](#)

[NOFFS Experience Survey](#)

[Standards and Metrics](#)

[Policy and Directives](#)

[Resources and Links](#)

www.navyfitness.org/noffs

- Background
- Location of Instructors/POC
- Virtual Trainer for NOFFS.... Step by step workout
- Hard copy files – downloadable
- Methodology
- Movement Library
- Equipment
- Coaching Tools
- NOFFS Survey/Eval.
- Marketing Tools
- ETC.





Virtual Trainer

NOFFS: Navy Operational Fitness & Fueling Series

Surface Ship Series Duration: 30 min ● 45 min ● 60 min Cardio: Equipment: Full Equipment - Dumbbell w/ Stretch Strap Stage: Stage B Level: Level 2

Squat To Overhead Press - Dumbbell



[PICS](#) [VIDEO](#)

10 **1** **1**
 REPS SETS CIRCUITS

Description

Starting Position:
 Stand with your feet shoulder width apart, holding dumbbells at your shoulders with your elbows facing forward.

Print Summary

Pillar Prep	REPS
Pillar Bridge w/ Arm Lift	6
Glute Bridge - Marching (Knee Extension)	6
Y's Bent Over	6

Movement Prep	REPS
Mini Band - Bent Knee Lateral Walk	4
Reverse Lunge, Elbow to Instep - In Place	4
Lateral Squat - Low Alternating	4
Inverted Hamstring	4

Strength A	REPS
Romanian Deadlift - 1 Leg Dumbbell	10
Bench Press - Alternating Dumbbell	10
Split Squat - Rear Foot Elevated Dumbbell	10
Bent Over Row - 1 Arm 1 Leg Dumbbell	10

Strength B	REPS
Squat To Overhead Press - Dumbbell	10
Lateral Pillar Bridge - w/ Abduction	10
Curl - 1/2 Kneeling Dumbbell	10
Crunches	10



“Downloads”



<http://navyfitness.org/fitness/noffs/downloads/>



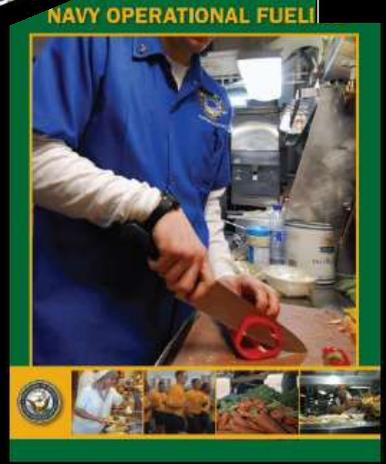
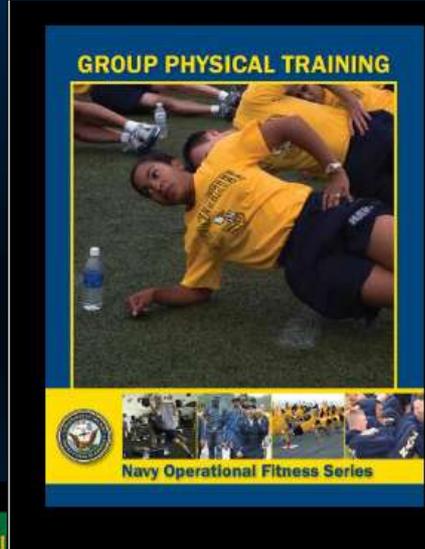
Submarines



Surface Ships



Large Decks





Equipment



Tactical Fitness

Phone: 904-213-7649

www.tacticalfitnessgsa.com

Navy Exchange Store

Perform Better

1-888-556-7464

www.performbetter.com

SPRI

1-800-222-7774

www.spri.com

NAVY FITNESS KIT

A. Xerubes with Sleeve
Upper body workout
XT-LPS, XT-MPS, XT-HPS

B. Navy Fitness Bag

C. Medium Xercuff
Lower body workout
XRC-M

D. Xerstretch Strap
Stretching
STRAP

E. Lex Loops
Lower body workout
LL-M, LL-H

F. Heavy Ultra Toner
Upper/Lower body workout
UT-H

G. Deploy Pack Exercise Cards
Includes 4 programs,
30 exercises

For more information contact
Lizz Erickson at SPRI
847-224-7364 or
lizz.erickson@spri.com



Fitness Kit - includes all products shown
07-70130





NOFFS I-Phone Application



I Phone Application is HERE!

**I-PAD Application is
Coming Soon!**

NOFFS Execution & Delivery Status





Execution & Delivery



- **Command Fitness Leader Course**
 - 5000 CFLs & ACFLs, starting 01/12
- **World-wide Delivery – MWR Fitness**
- **Command Leadership School**
 - CO, XO, CMC/COB Schools
- **Training Schools: RTC Pilot, TSC, etc.**
- **11,000 Standardized Kits Delivered**
- **Primary HPW BSOs Using as Tool**
- **Navy Recruiting Command – Recruiters**
- **ROTC**





Evaluation



- **Methodology Supported by over 400 published**
 - Literature review
- **Instructor Surveys**
 - NOFFS Website
- **Experience Surveys – individual Sailors**
 - NOFFS Website --- reporting ROI
- **Univ. of GA – Fleet NOFFS Evaluation**
- Evidence-based Next Steps: NOFFS 2.0



Evaluation



NOFFS Methodology – positive impact of Injury prevention.

- University of Waterloo Fighter-Fighter Study
- 400 Firefighters had their Functional Movement capabilities analyzed.
- Individualized programs improved areas of weakness in mobility, stability and strength:
 - **62% reduction in time lost to injury**
 - **42% reduction of total overall injuries**



Advancing NOFFS



NOFFS 2.0

- **Advanced Strength**
- **Advanced Cardiovascular**
- **Austere Environments (Sand Bags)**
- **Regeneration**
- **Nutrition – much more info coming!**
- **Marketing**



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Back – Up Slides

Notes



ACSM Industry Guidelines

05 July 2011



Cardiorespiratory Exercise:

- at least 150 minutes of moderate-intensity exercise per week.
- 30 to 60 minutes of moderate-intensity exercise five days per week
- 20 to 60 minutes of vigorous-intensity exercise three days per week.
- One continuous session and multiple shorter sessions of at least 10 minutes are both acceptable

Resistance Exercise:

Adults train each major muscle group two or three days each week.

Flexibility Exercise:

Flexibility exercises at least two or three days each week to improve range of motion.

Neuromotor Exercise:

Neuromotor exercise, also referred to as "functional fitness training," is recommended two or three days per week. Exercises should involve motor skills (balance, agility, coordination and gait), proprioceptive exercise training, and multifaceted activities.



What is missing?



National Guidelines tell “what to do” Need further direction in guiding “how to do it” --- eliminate the guesswork.

Baseline Needs/Interest Assessments & Focus Groups:

CFLs: “Eliminate the guesswork” -- too much out there
– some controversial.

Health Promotion Professionals – maybe not sme in exercise physiology?
What tools can be readily made available to HPW team?

We need a “logic engine” Not just equipment.... Put it together and show us how to use it. I don’t know how to develop a sound scientifically based program when I go into the gym?

What program will be best suited for Sailors’ operational performance ?



21st Century Sailor



Initiated by SECNAV Ray Maybus. Officially released March 2012, Norfolk, VA, USS BATAAN

A set of objectives & policies across a spectrum of wellness that maximizes Sailor & Marine personal readiness to hone the most combat effective force in the history of the Department of Navy.

Programs included in 21st Century Sailor & Marine are being placed under the umbrella of this initiative of building resiliency of the force & making Sailors & Marines for life.

FITNESS: <http://www.21stcentury.navy.mil/physicalfitness.aspx>

Baseline Assessment 1/28/09

- Confined Spaces -



PT – Large Populations with Limited Equipment/Space



Exercise Technique – Example: Anterior Loading





NUTRITION Findings

Foundational nutrition questions were more prevalent than performance nutrition.

Portion Control - What is a portion?

Request for a daily food list/ “phone list” ...
“show me the food options that are the healthiest”.

Several weight management questions – healthy food choices for reducing weight.

NAVSUP Site Visits/ships: Primary request... “Provide us with more information”.





NUTRITION Findings

Sub community most limited/biggest challenge: lack of storage space.

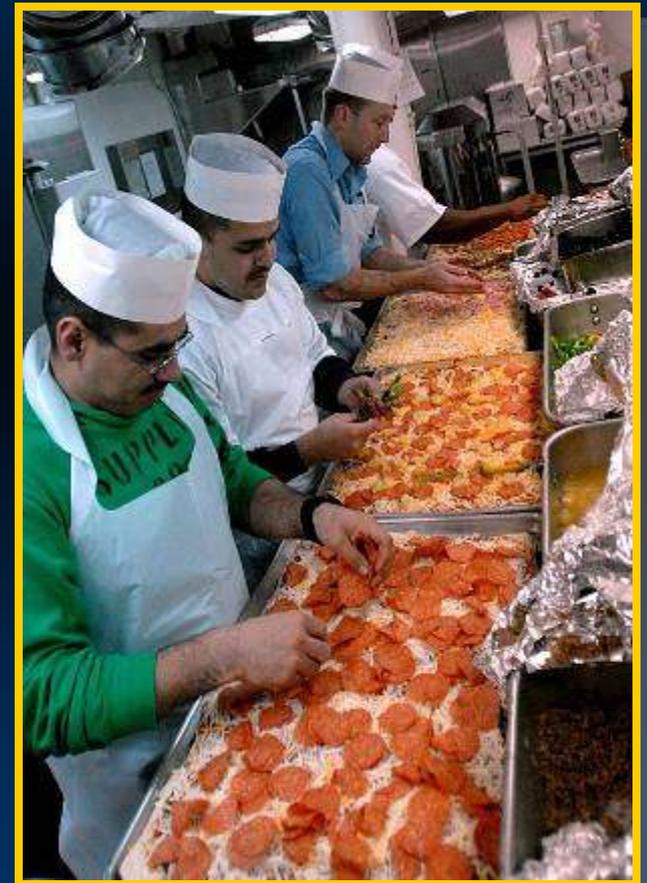
Skipping breakfast is a problem.

Recited a poster in Galley during focus groups (Volumetrix) awareness education is appreciated.

Precontemplaters – give up free meal for fast food/junk food.

NO MANUALS!!!! – make it simple.

Energy Drinks – Red Bull, Monster – VERY popular!



Transition from “traditional” to operational movement

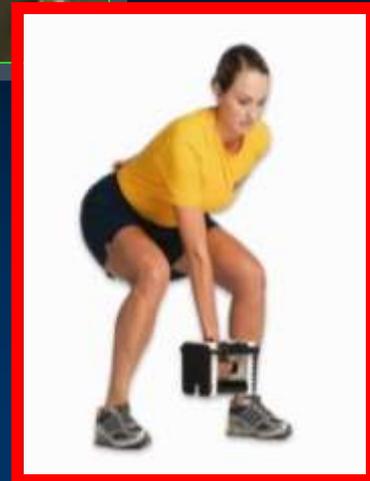
Moving away from “traditional” strength training

- Training body parts
- Single joint movements



Goal is to strengthen movement

- Movement pattern
- Multiple joint movements



Operational Movement =

- Infinite, multidimensional