

Navy's New High-tech Fitness Program Transforms Physical Training Practices Aboard Submarines



“NOFFS is the perfect solution for staying physically fit in the confined spaces of a submarine,” said Master Chief Petty Officer of the Navy Mike Stevens. “It combines smart nutrition and a viable workout to provide our Submariners 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. HOOYAH Submarines.”

Photo by MC1 Ian Anderson

As a part of the 21st Century Sailor and Marine Initiative, Secretary of the Navy Ray Mabus introduced the Navy Operational Fitness and Fueling System (NOFFS) in March 2012 as the U.S. Navy’s SECNAV-directed performance training system. NOFFS has enabled the Navy to provide standardized, evidence-based exercise performance and nutrition information to more than 425,000 Sailors worldwide.

NOFFS employs a new methodology to keep Sailors ashore and afloat in top physical condition. Based on sports science training philosophies that have produced multimillion dollar athletes, NOFFS is designed to improve operational performance, decrease the incidence and severity of musculoskeletal injuries, and provide foundational nutritional guidance for Sailors. This world-class performance training system was developed using the latest sports science methodologies combined with the foundational operational movement patterns of Sailors.

“Developing a performance training system for the submarine community was our greatest challenge,” said Capt. John Newcomer, Commanding Officer of the Center for Personal and Professional Development (CPPD). “The confined space and equipment limitations are, by far, the greatest with our Submarine Fleet.”

The Navy’s NOFFS development team includes over 45 human performance, physical fitness, nutrition, and injury prevention experts, as well as Athletes’ Performance—a recognized international leader in the human performance industry. All of the aforementioned experts worked closely with over 750 Sailors from the submarine and surface communities to identify the very specific needs of this population. Sailors aboard the *Los Angeles*-class attack submarine USS *Boise* (SSN 764) provided specific guidance and recommendations for performance training while underway on a submarine.



Photo by MC3 Chelsy Alamina

Example of how NOFFS movements prepare Sailors for SUBFOR operational performance
Exercise Photos © David Zickl 2009

Example of how NOFFS movements prepare Sailors for SUBFOR operational performance



NOFFS Pillar Prep Exercise
Quadrupedal Thoracic Rotation

NOFFS Movement Prep Exercise
Forward Lunge Elbow to Instep

NOFFS Strength Exercise Fit Kit
Equipment-Bent Over Row-1 Arm

Photos © David ZickL 2009

“The NOFFS system offers every Sailor, regardless of fitness level, the ability to personalize a training regimen specific to their nutrition, strength, flexibility and cardiovascular training goals,” said Chief Hospital Corpsman (SS/FMF) Eric “Billy” Staley, former staff hospital corpsman for Commander, Submarine Force Atlantic. “As the Sailor’s fitness level increases, the program is easily adapted for continued gains in fitness.” The native of Clayton, Ind., recently transferred to the Gold Crew of the *Ohio*-class guided- missile submarine USS *Georgia* (SSGN 729) in Kings Bay, Ga. “On board submarines, little space is available for large amounts of fitness equipment,” said Staley. “The NOFFS system’s platform-specific training series allow Sailors to be able to maintain, or improve their fitness level in any operational environment regardless of the amount of fitness equipment that is available.”

NOFFS was initiated as a response to a demand signal from the fleet to improve the operational performance of Sailors by linking fitness to their daily tasks, with due consideration given to space and equipment limitations. Lifting, pushing, pulling, and carrying require strength training, multi-directional movement training, movement preparation, cardiovascular training, and recovery training.

“There is a consummate paradigm shift in physical development from a traditional fitness model of isolated, single-joint resistance to an archetype in integrated training systems based on movement including: Restoring Movement, Training Movement, Fueling Movement,” said Cmdr. Denise Gechas, director of population health at Navy and Marine Corps Public Health Center.

The focus of this system is optimized *operational* physical performance and fueling (nutrition). NOFFS includes more than 90 exercises that eliminate the guesswork for Sailors when exercising, with an underlying

NOFFS Bench Press Strength Exercise



The Bench Press is a NOFFS exercise identified as a “full equipment” strength option in both the surface ship and Large deck series.

Photos © David ZickL 2009

Photo by Mass Communications Specialist First Class Jason Swink

focus on the prevention of musculoskeletal injuries. “NOFFS training has been very helpful in keeping Sailors in the mindset of living a healthy lifestyle. Proper mechanics in exercising will prevent injuries that can cause loss of man hours and training, and cost the medical system a lot of money. NOFFS is working well and is being introduced at the right level,” said Master Chief Culinary Specialist Scott Brody of Naval Submarine School, New London, Conn.

The Trident Refit Facility in Kings Bay,

Ga., uses NOFFS on a weekly basis, according to Chief Machinist’s Mate Orlando Thomas, a Command Fitness Leader. “I have seen more command participation and fewer injuries since incorporating NOFFS into our PT. My Sailors think NOFFS is phenomenal,” he said.

Jennifer Person-Whippo, U.S. Naval Supply Systems Command’s nutrition program manager said, “The Fueling Series gives Sailors practical tools on nutritional fundamentals, meal planning, portion awareness,

and energy management. NOFFS is all inclusive – teaching portion sizes, providing food lists of green, yellow, and red items, and female and male meal builders. These resources are critical in the success of fueling for performance and health of a Sailor.”

Master Chief Culinary Specialist Chris Nailon, Commander, Submarine Force staff culinary specialist, has seen results with NOFFS. “I not only promote the program with our Sailors, I’ve benefited from it personally. Specifically, I was able to shed

Commands and Organizations Across the Navy Participating in NOFFS Implementation:

Commander, Navy Installations Command (CNIC) Fitness, Sports, and Deployed Forces Support

- CNIC Website provides the NOFFS program to Sailors at <http://navyfitness.org/noffs>. Sailors can download illustrated exercise cards and view video demonstrations of each exercise to ensure correct technique. Through the “virtual trainer” on the Navy Fitness website, Sailors can “eliminate the guesswork” with their workouts.
- CNIC NOFFS Training Courses are available at installations Navy-wide. The four- to six-hour training course is available to CFLs and health/fitness professionals. Registration is available through the MWR fitness program. To locate a NOFFS instructor, or to inquire about an upcoming NOFFS course, visit: http://www.navyfitness.org/fitness/noffs/locate_trainer/
- CNIC Fitness, Sports, and Deployed Forces Support is leading fleet execution and has distributed NOFFS kits to both fleet units and MWR gym facilities. “Sailors have access to NOFFS anywhere in the world,” said Lisa Sexauer, director, CNIC Fitness, Sports, and Deployed Forces Support. Fit kits, one of the primary training tools used in the NOFFS program, have been released to operational platforms via Deployed Forces Support offices. Fit Kits and group training bags are available for check out at any Navy Fitness facility.

Command Leadership School (CLS) in Newport, R.I., began instructing prospective commanding officers and executive officers on NOFFS in June 2010. All incoming leaders attending the Prospective Commanding Officer, Executive Officer, or Command Master Chief/Chief of the Boat courses perform the NOFFS Submarine Series Level 1 as part of their physical training.

The Command Fitness Leader (CFL) curriculum for 2012 provides NOFFS training during a full-week standardized course. CFLs learn about NOFFS and participate in a complete NOFFS training session. There are more than 5,000 command fitness leaders and assistant command fitness leaders throughout the Navy.

Naval Supply Systems Command continually provides NOFFS training to the fleet. NAVSUP uses NOFFS Fueling as its primary resource for nutritional instruction. “The NOFFS program has proven to be a great healthy living asset for submarine Sailors. This program blends together the complexity of developing a workable exercise routine while offering some simple, easy-to-follow nutritional guidelines,” said Nailon. “And the addition of a NOFFS smart phone app was certainly a nice touch to market the program to our tech-savvy Sailors. Good health only comes when you are eating right, dieting, and exercising the right ways.”

Naval Submarine School, Submarine Base (SUBASE) New London, Conn., now offers a NOFFS indoctrination program. “We are meeting biweekly with Basic Enlisted Submarine School (BESS) students and have helped 1,032 already,” said Lindsey Wolfram, SUBASE New London’s former assistant athletic director. The New London Fitness Program has trained more than 84 CFLs in NOFFS instruction since 2011. NOFFS instructor courses continue to be offered the third Tuesday of every month. “The goal is to expose every SUBSCOL student to NOFFS methodology before branching out into their individual commands,” said Kevin Boedigheimer, SUBASE New London’s athletic director.

The Submarine Electronic Computer Field (SECF), a branch of SUBSCOL, also has reoccurring NOFFS gym sessions. “In the past six weeks, we have worked with 1,179 SECF students, and 12 of their instructors have gone through the NOFFS CFL/instructor course,” said Penelope Donahue, NOFFS Certified Fitness Instructor at SUBASE New London.

Navy Recruiting Command (NRC) support is led and positively influenced by Rear Adm. Earl Gay, Commander of NRC; Force Master Chief Earl Gray; and Navy Counselor Master Chief Jimmie Holt, national chief recruiter, Navy Recruiting Region and District leadership teams, and the Recruiting School (NORU). NRC, through NORU, has implemented weekly NOFFS physical training for all students and staff members since April of 2011. NORU’s Fitness Enhancement Program (FEP)/Enhanced PT trains those assigned and volunteers twice per week in NOFFS (averaging 25 students/staff members per session). Total student throughput at NORU is more than 1,300 yearly. In FY 2012, more than 400 command members distributed throughout 26 Navy Recruiting Districts received NOFFS training by CNIC fitness instructors. “The NOFFS system, and the resources available on <http://navyfitness.org/noffs>, is an outstanding physical fitness training system for Navy Recruiting and its distributed/national force,” said Victor Licause, retired Master Chief Special Warfare Operator, who is currently Navy Recruiting Command’s Physical Fitness program manager.

Navy Health Promotion Training is a primary component of the Navy’s newly launched health promotion and wellness campaign, which is directly aligned with the National Prevention Strategy Strategic Plan. The active living, injury/violence prevention, and nutrition programs emphasize the NOFFS system. Webinars promoting the NOFFS system are also delivered by the Navy and Marine Corps Public Health Center (NMCPHC), the organization responsible for leading the Navy’s health and wellness campaign. <http://www.med.navy.mil/sites/nmcphc/health-promotion/Pages/default.aspx>

Recruit Training Command (RTC) Great Lakes has incorporated NOFFS exercises into their new PT instruction, and the RDC C School uses NOFFS during their weekly physical training sessions with the incoming “blue ropes.”

about 25 pounds and reduce my 5K finishing times by about 10 minutes. I've just completed my fifth half-marathon," he said. "The program has completely changed my life with regard to living a healthy lifestyle. Creating a healthy lifestyle doesn't have to mean drastic changes. In fact, I think drastic changes almost always lead to failure. With making small changes in how one lives each day, it can lead to big rewards. Living a healthy lifestyle can do more than prevent disease. I really believe it can also help you have more energy and stamina, stay slim, be more alert, fight stress, and ultimately live a longer life."

NOFFS supports the 21st Century Sailor and Marine initiative designed to maximize individual Sailors' and Marines' readiness, resiliency and combat effectiveness. "I think that with the increased focus on a 'culture of fitness,' NOFFS gives Sailors the tools and knowledge to make physical training a part of their lifestyle," said Senior Chief Sonar Technician (Submarines) Erik Gemaly, assigned to Naval Submarine School.

NMCPHC Commanding Officer Capt. Michael Macinski said, "NOFFS is the next significant step in promoting a Navy culture of fitness. NOFFS represents this training system as a professional medium to take care of the Navy's greatest asset: its people."

A NOFFS application is available for iPhone and is under development for iPad. As of December 2012, the application had been downloaded over 17,000 times and had an average user rating of 4/5 stars.

For further information on NOFFS, download the NOFFS application or visit the NOFFS website at:

<http://www.navyfitness.org/noffs>.

For addition information on active living, nutrition, and injury prevention programming visit the Navy and Marine Corps Public Health Center (NMCPHC) Health Promotion and Wellness Website:

<http://www.med.navy.mil/sites/nmcphc/healthpromotion/Pages/default.aspx>

Diana Strock, MAT, ATC, is the Senior Advisor for Human Performance & Public Health at the Center for Personal and Professional Development in Virginia Beach, Va., and Program Manager for Physical Fitness & Injury Prevention at the Navy and Marine Corps Public Health Center in Portsmouth, VA

"NOFFS is all inclusive—teaching portion sizes, providing food lists of green, yellow, and red items, and female and male meal builders. These resources are critical in the success of fueling for performance and health of a Sailor."



The handouts pictured above represent part of the five areas of nutritional focus in the NOFFS Fueling Series. This content for the Navy Fitness and Fueling Series is designed to help Sailors achieve their goals by giving them the tools to make choices that will result in the energy they need to perform their jobs.

