



Athletes
PERFORMANCE



Navy Operational Fitness and Fueling Series

Putting it all together

NAVY
Fitness



Navy Operational Fitness and Fueling Series

Background

Purpose



To provide the Navy with a “world class” 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

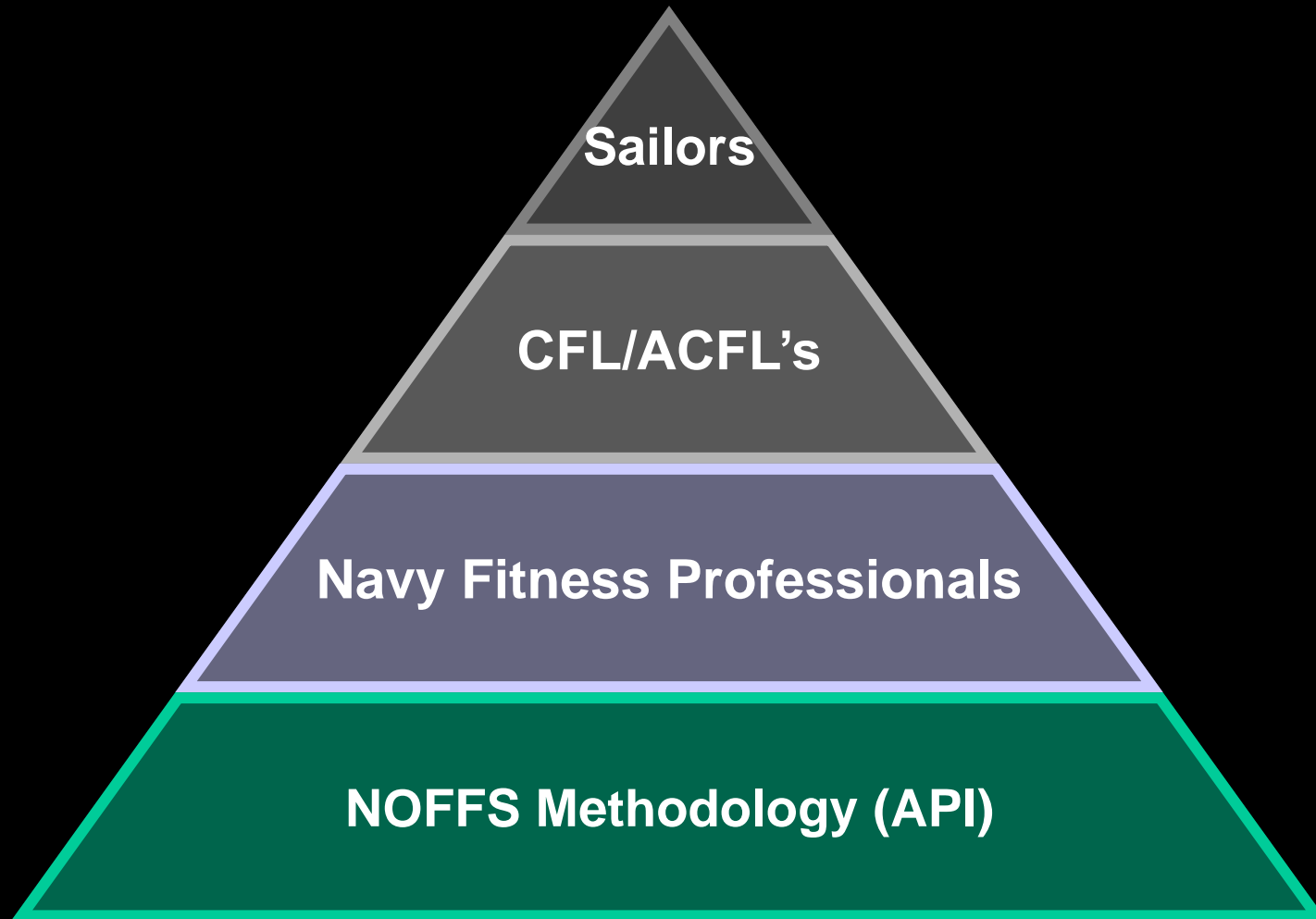
Goal is to provide a complete physical training program that will “eliminate the guesswork” for the

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

Knowledge Pyramid



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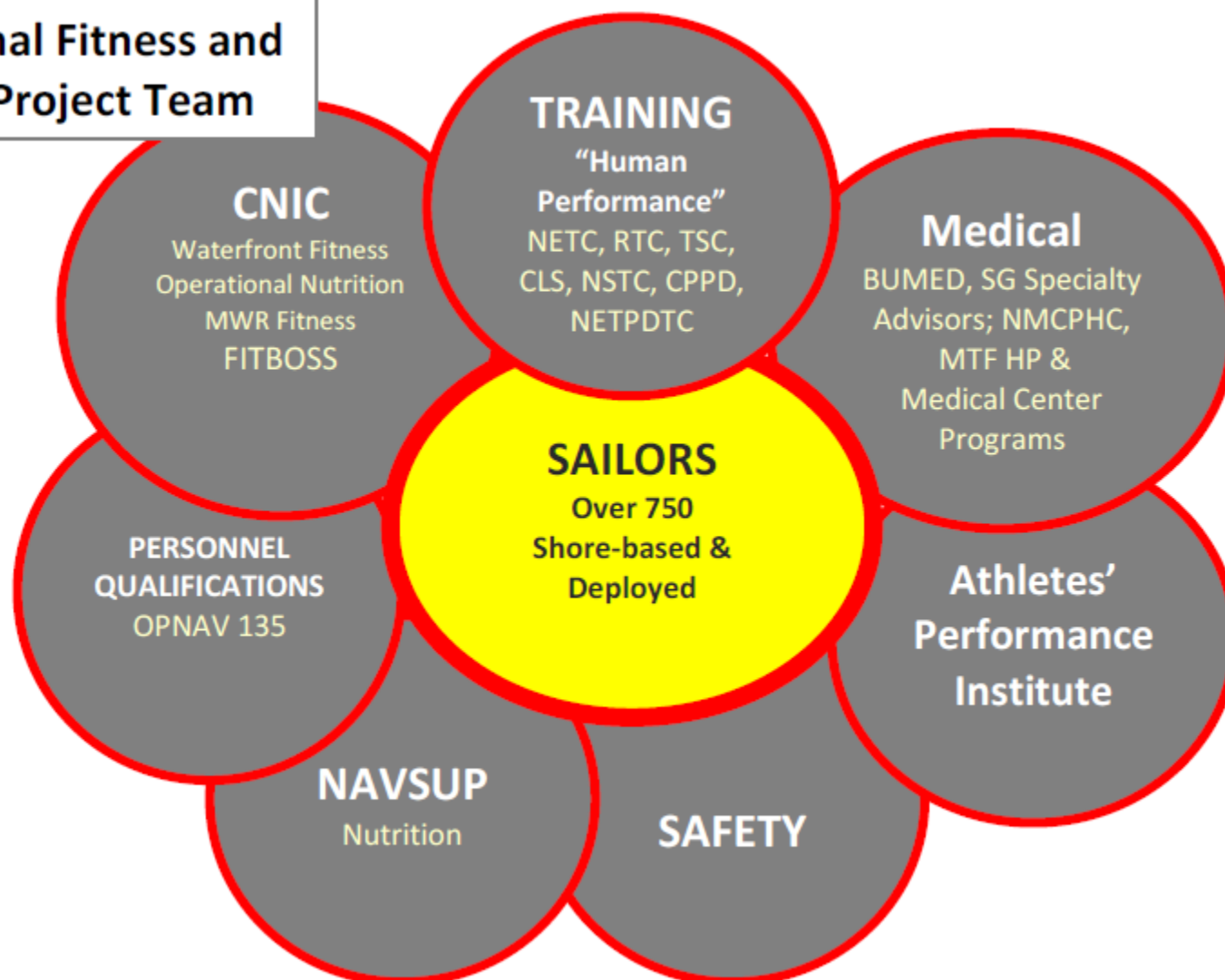


Project Fitness & Nutrition Experts



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Operational Fitness and Fueling Project Team



API Partnership



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- Athletes Performance Institute (API)
 - Trained last 5 NFL #1 draft picks
 - Trains over 1,000 professional athletes
 - Working with the Navy – over 7 years





Overview of the NOFFS Training Components

Understanding the emphasis of
each component of the NOFFS



Pillar Preparation

Your Pillar – which consists of your hips, torso, and shoulders – represent the foundation for all your movement. “Pillar Prep” primes these critical muscles to prepare your body for the work ahead – helping to protect you from injury and boost your performance.

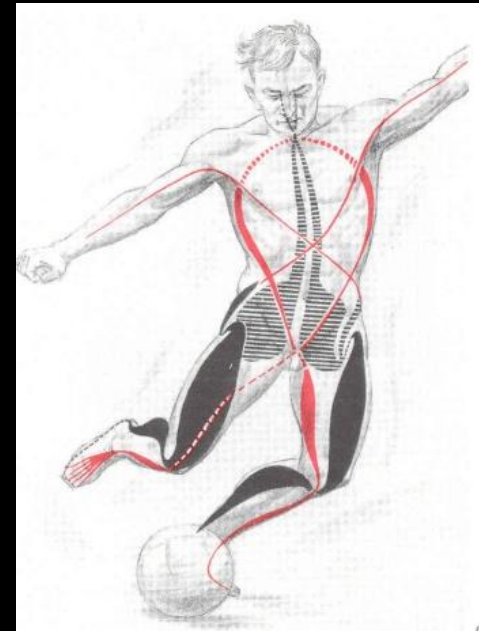
Pillar Preparation



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The importance of the Pillar

- At the center of **ALL MOVEMENT!**
- Transfers energy through it
- Generates energy from it
- If it lacks stability & mobility inefficient movement and energy leaks are the result!
- Critical to kinetic linking and all performance





Movement Preparation

An efficient, systematic and purposeful approach used to prepare the individual for the specific demands of the days training sessions or competition

Movement Preparation



2 Key Components

1) Glute Activation

- Essential part of your pillar's performance
- Effects both up & down your chain
- Often “shut off” from sitting all day, and poor posture
- Facilitates reciprocal torso activation

2) Dynamic Flexibility

- Move “actively” through movement patterns specific to the training demands of the day
 - Active elongation of muscles & active mobility of the joints
- Held for 1-2 seconds
- Reciprocal inhibition
- Rehearsal of fundamental movement patterns and sequencing (Unloaded)

Movement Preparation



Benefits

- 1) Increase Core Temperature
- 2) Actively Elongate Muscles
- 3) Enhance Proprioception
- 4) Integrated Stability
- 5) Refine Movement Patterns

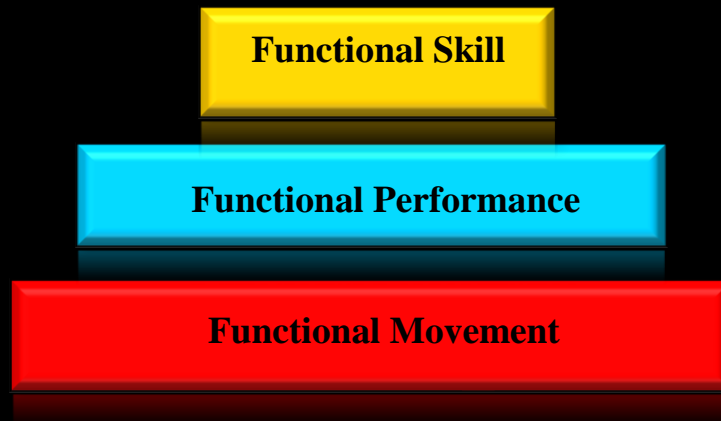


Strength

Designed to strengthen the movement patterns needed to perform on an operational platform.

Attention to Movement Quality

1) Performance Pyramid



Adapted from Gray Cook 2001

2) “Don’t Place Fitness on Dysfunction”

Fitness



Dysfunction

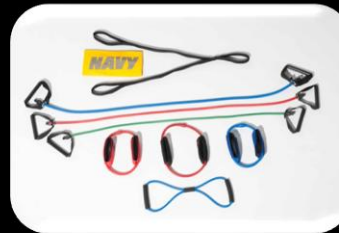
- Reinforces compensatory patterns
- Push compensations further
- Increase microtrauma
- Leads to more injuries!

Attention to Loading

1) Loading Emphasis

- Initially place the emphasis on movement execution and quality
- As quality improves shift focus to the appropriate intensity of the training session (resistance selection)

2) Loading Type



Elastic Resistance

- _progressively increase volume
- _increase in reps across stages

Mass Resistance

- _progressively increase intensity
- _decrease in reps across stages



Cardiovascular Fitness

Designed using an interval training approach focusing on improving heart rate recovery, endurance, leg strength, and cardio strength. Individualized for each Sailor through HR Zones or Rate of Perceived Exertion (RPE).

Cardiovascular Fitness



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Benefits

- 1) Develops all energy systems
 - i) Aerobic
 - ii) Anaerobic
 - iii) Peak-PC
- 2) Overloads Cardiovascular system
 - _the body must be presented with a workload that challenges its current fitness state.
- 3) Increased Motivation
 - _Intervals are challenging, always changing, and engaging
 - _progressive plans for variety of levels to advance
- 4) Increased Metabolism
- 5) Increased total calories burned
- 6) Prevents Injuries
 - _keeps movement quality high
 - _long slow duration with no recovery can cause quality of movement to decrease over a session



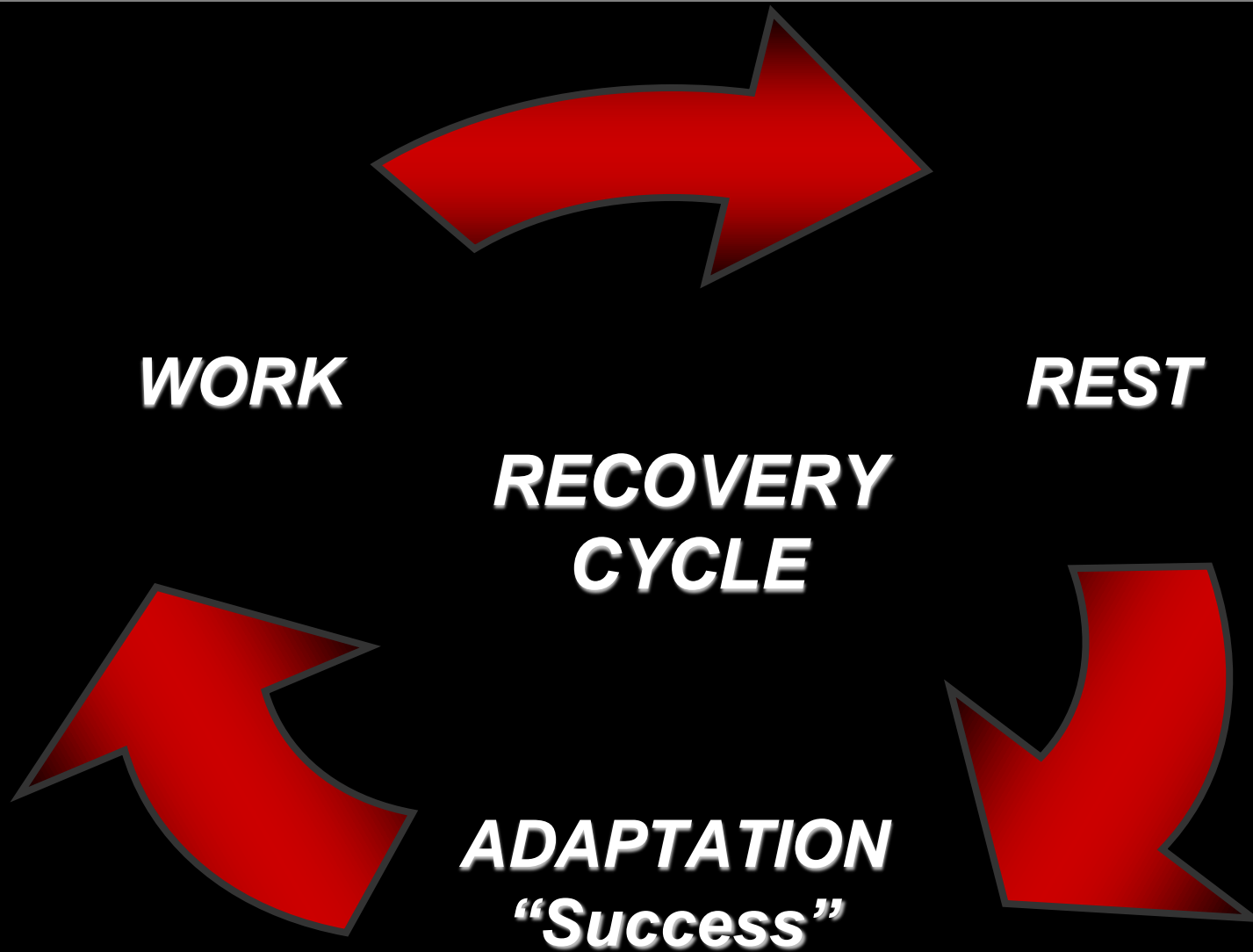
Recovery (Flexibility)

Helps to bring balance back to your body, relieving tension and the associated aches and pains. Active-Isolated Stretching will help lengthen short or stiff muscles by re-programming them to contract and relax through new ranges of motion.

Recovery



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The Components of the NOFFS

What makes up the card series?

Information & Resources



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Quick Introduction



- Light overview of the NOFFS project
- Athletes' Performance partnership
- Project development team
- Project review team

Overview & Movement Library



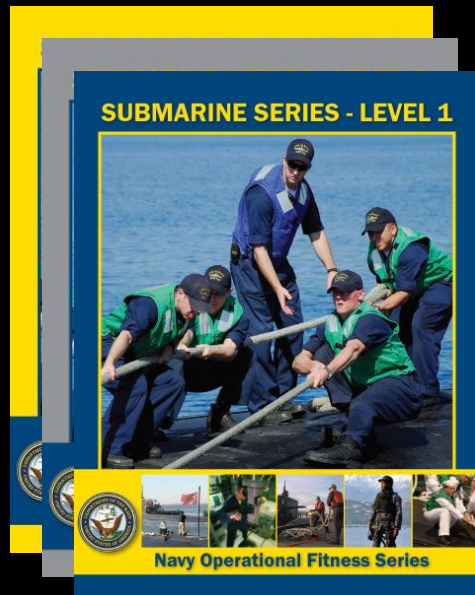
- Detailed overview of the NOFFS project & purpose
- Methodology overview
- Movement library with detailed coaching keys

Card Series & Levels



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- Progressive levels of training (1- Blue, 2 – Grey, 3 – Gold)
- Programming specific to vessel constraints



Submarines



Surface Ships



Large Decks

Vessel Specific Programming



*Submarine Series

- Small space for all training
- Fit Kit equipment
- Minimal cardio equipment

*Large Deck Series

- Large space for all training
- Fit Kit & full equipment (DB/Bench)
- Cardio Equipment

*Surface Ship Series

- Moderate space for all training
- Fit Kit & full equipment (DB/Bench)
- Cardio equipment

*Group Series

- Progressions for each card (L.1/2/3)
- Fit Kit equipment
- Metabolic circuits

Group Training



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- Resource for group training instruction
- All levels in one card series
- Easy to progress/regress members of a group and keep the flow of the group consistent

Fueling Series



NAVY OPERATIONAL FUELING



- Fueling series
- Providing simple and effective fueling strategies for Sailors
- Easy to use resources to help Sailors plan their meals to match their needs



Mindset



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EatCleanEatOftenHydrateRecoverMindset

MINDS

1t - 1 Teaspoon
 1T - 1 Tablespoon
 1c - 1 Cup
 1oz - 1 Ounce
 sm. - Small
 med. - Medium
 lg. - Large

ZONE 1	
WEIGHT	GOAL
110 - 130	Weight Loss
131 - 160	Weight Loss

Meal Replacement should have 10 - 20g Protein, 20 - 40g of Carbs, and \geq 3g of Fiber

ZONE 2	
WEIGHT	GOAL
110 - 130	Weight Main
161 - 190	Weight Loss

Meal Replacement should have 10 - 20g Protein, 20 - 40g of Carbs, and \geq 3g of Fiber

ZONE 3	
WEIGHT	GOAL
131 - 160	Weight Main
Meal Replacement should have 10 - 20g Protein, 20 - 40g of Carbs, and $\geq 3g$ of Fiber	

ZONE 4	
WEIGHT	GOAL
161 - 190	Weight Main
Meal Replacement should have 10 - 20g Protein, 20 - 40g of Carbs, and $\geq 3g$ of Fiber	

ZONE 5	
WEIGHT	GOAL
110 - 160	Weight Gain
Meal Replacement should have 10 - 20g Protein, 20 - 40g of Carbs, and \geq 3g of Fiber	



Getting Into Your Zone



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EatCleanEatOftenHydrateRecoverMindset

BUILD YOUR MEALS - FEMALE BUILDER

MINDSET

ZONE 1 Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	1	**	1-2	1	1-2	**
Protein/Dairy	1	**	1	**	1	1
Fruits	1-2	1	1-2	**	**	1
Veggies	**	**	3	**	3	**
Fats	1	1	1	1	1	**
OR						
Meal Replacement	**	1	**	1	**	1
Total Calories	280-340	140-170	350-425	140-170	350-425	140-170

ZONE 1	
WEIGHT	GOAL
110 - 130	Weight Loss
131 - 160	Weight Loss
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 2 Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	1-2	**	2-3	1	2-3	**
Protein/Dairy	1	**	1	**	1	1
Fruits	1-2	1-2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	1-2	1	1-2	1	1-2	1
OR						
Meal Replacement	**	1	**	1	**	1
Total Calories	340-400	170-200	425-500	170-200	425-500	170-200

ZONE 2	
WEIGHT	GOAL
110 - 130	Weight Main
161 - 190	Weight Loss
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 3 Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	2	1	2-3	1	2-3	**
Protein/Dairy	1	1	1	**	1	1
Fruits	1-2	1-2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	1-2	1-2	2-3	1-2	2-3	1-2
OR						
Meal Replacement	**	1 + Fruit	**	1 + Fruit	**	1 + Fruit
Total Calories	400-460	200-230	500-575	200-230	500-575	200-230

ZONE 3	
WEIGHT	GOAL
131 - 160	Weight Main
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 4 Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	2-3	1	2-3	1	2-3	1
Protein/Dairy	1-2	1	1.5	**	1.5	1
Fruits	2	2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	2-3	2-3	2-3	2	2-3	2
OR						
Meal Replacement	**	1 + 2 Fruit	**	1 + 2 Fruit	**	1 + 2 Fruit
Total Calories	460-520	230-260	575-650	230-260	575-650	230-260

ZONE 4	
WEIGHT	GOAL
161 - 190	Weight Main
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 5 Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	2-3	1-2	2-3	1-2	2-3	1
Protein/Dairy	1-2	1	1.5	**	1.5	1
Fruits	2-3	2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	2-3	2-3	2-3	2	2-3	2
OR						
Meal Replacement	**	1 + 2 Fruit + 1 Fat	**	1 + 2 Fruit + 1 Fat	**	1 + 2 Fruit + 1 Fat
Total Calories	520-600	260-300	650-750	260-300	650-750	260-300

ZONE 5	
WEIGHT	GOAL
110 - 160	Weight Gain
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

3 Deciding Factors

Gender

Goal

Current Weight

Gender

ZONE 2

WEIGHT	GOAL
110 - 130	Weight Main
161 - 190	Weight Loss

Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber

Goal

Current Weight

Understanding Your Zone



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Eat Clean Eat Often Hydrate Recover Mindset

BUILD YOUR MEALS - FEMALE BUILDER



ZONE 1						
Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	1	**	1-2	1	1-2	**
Protein/Dairy	1	**	1	**	1	1
Fruits	1-2	1	1-2	**	**	1
Veggies	**	**	3	**	3	**
Fats	1	1	1	1	1	**
OR						
Meal Replacement	**	1	**	1	**	1
Total Calories	260-340	140-170	350-425	140-170	350-425	140-170

ZONE 1	
WEIGHT	GOAL
110-130	Weight Loss
131-160	Weight Loss
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 2						
Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	1-2	**	2-3	1	2-3	**
Protein/Dairy	1	**	1	**	1	1
Fruits	1-2	1-2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	1-2	1	1-2	1	1-2	1
OR						
Meal Replacement	**	1	**	1	**	1
Total Calories	340-400	170-200	425-500	170-200	425-500	170-200

ZONE 2	
WEIGHT	GOAL
110-130	Weight Main
161-190	Weight Loss
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 3						
Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	2	1	2-3	1	2-3	**
Protein/Dairy	1	1	1	**	1	1
Fruits	1-2	1-2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	1-2	1-2	2-3	1-2	2-3	1-2
OR						
Meal Replacement	**	1 + 2 Fruit	**	1 + 2 Fruit	**	1 + 2 Fruit
Total Calories	400-460	200-230	500-575	200-230	500-575	200-230

ZONE 3	
WEIGHT	GOAL
131-160	Weight Main
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 4						
Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	2-3	1	2-3	1	2-3	1
Protein/Dairy	1-2	1	1.5	**	1.5	1
Fruits	2	2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	2-3	2-3	2-3	2	2-3	2
OR						
Meal Replacement	**	1 + 2 Fruit	**	1 + 2 Fruit	**	1 + 2 Fruit
Total Calories	460-520	230-260	575-650	230-260	575-650	230-260

ZONE 4	
WEIGHT	GOAL
161-190	Weight Main
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

ZONE 5						
Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	2-3	1-2	2-3	1-2	2-3	1
Protein/Dairy	1-2	1	1.5	**	1.5	1
Fruits	2-3	2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	2-3	2-3	2-3	2	2-3	2
OR						
Meal Replacement	**	1 + 2 Fruit + 1 Fat	**	1 + 2 Fruit + 1 Fat	**	1 + 2 Fruit + 1 Fat
Total Calories	520-600	260-300	650-750	260-300	650-750	260-300

ZONE 5	
WEIGHT	GOAL
110-160	Weight Gain
Meal Replacement should have 10-20g Protein, 20-40g of Carbs, and ≥ 3g of Fiber	

Nutritional Blueprint

ZONE 2						
Fueling Times						
BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK	
Grains	1-2	**	2-3	1	2-3	**
Protein/Dairy	1	**	1	**	1	1
Fruits	1-2	1-2	**	1	**	1
Veggies	**	**	3	**	3	**
Fats	1-2	1	1-2	1	1-2	1
OR						
Meal Replacement Bar/Shake	**	1	**	1	**	1
Total Calories	340-400	170-200	425-500	170-200	425-500	170-200

The six columns across the top represent meal times or “fueling times.”

Food Groups are represented along the left side.

The numbers located within the body of the blueprint are the recommended number of servings from each food group at each fueling time.



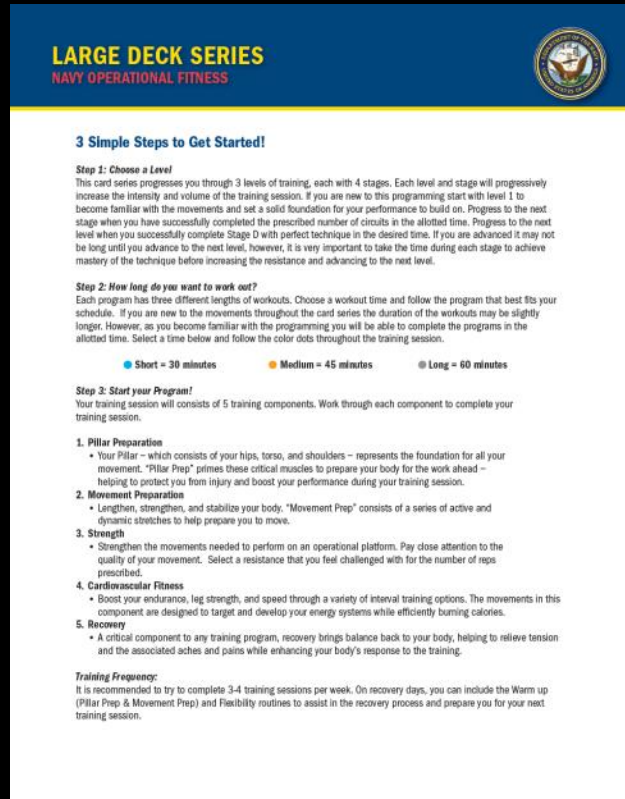
Card Layout & Reading the Programs

Executing the Programming

Getting Started...



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Each series starts with a “quick start” guide (3 Simple Steps to Get Started)

Step 1: Level Selection

level 1,2,3

Step 2: Duration Selection

30 min

45 min

60 min

Step 3: Training Frequency

3-4 sessions/wk

recovery days

Card Layout



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Warm Up (Pillar / Movement Prep) & Strength



Level 1 (a,b,c,d)



Level 2 (a,b,c,d)

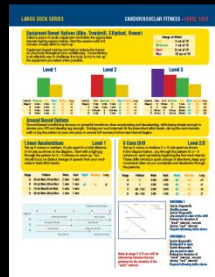


Level 3 (a,b,c,d)

Cardiovascular Fitness



Level 1/2/3 (a,b,c,d)



Recovery



Level Neutral



Duration Options

Short = 30 min

Medium = 45 min

Long = 60 min

Reading the Program



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LARGE DECK SERIES
WARM UP & STRENGTH - LEVEL 2

Movement Prep
Specifically designed to lengthen, strengthen, and stabilize your body, "Movement Prep" consists of a series of active and dynamic stretches to help prepare you to move. Execute each movement with control and purpose.

Stage:	A	B	C	D
No. of Circuits:	1	1	1	1
Reps:	4	4	6	6

● Short
● Medium
● Long

1

MINI BAND - BENT KNEE LATERAL WALK

- Stand in quarter-squat position with feet hip width & band just above knees
- Take small side steps, lead elbows drive back with each step
- Push with back leg, don't reach with front leg. Keep mild tension on band at all times

4

REVERSE LUNGE - W/ REACH

- Contract your back glute at the bottom of the lunge
- Reach your one hand overhead, reaching other hand toward the deck - hold for 2 sec
- Keep chest up, don't let your back knee touch the deck
- Alternate sides each rep

2

REVERSE LUNGE, ELBOW TO INSTEP - IN PLACE

- Place right hand on deck & left elbow inside of left foot. Hold for 2 sec
- Place left hand outside foot & push hips to the sky
- Keep back knee off deck & contract rear glute
- Alternate sides each rep

5

DROP LUNGE - ALTERNATING

- Reach one foot behind, square hips forward & sit back & down into a squat
- Maintain weight primarily on front leg, keep your chest up, torso upright, & sit hips back
- You should feel a stretch in the outsoles of both hips
- Alternate sides each rep

3

LATERAL SQUAT - LOW ALTERNATING

- Stand with feet wider than shoulder width apart, shift hips to the side & down
- Keeping your hips low the entire time, push through your hip to shift your weight onto the opposite leg
- Move with control & keep your chest up throughout the movement
- Alternate sides each rep

6

YOUR LEG STRETCH

- When you feel a stretch, return to the standing position by contracting glute & hamstring
- Keep stance leg slightly unlocked, back flat & shoulders & hips parallel to deck
- Complete reps, repeat on opposite side

Stage:	A	B	C	D
No. of Circuits:	1	1	1	1
Reps:	4	4	6	6

_Stages progress A→ D

_Number of Sets

_Number of Reps

Pillar/Movement Prep

● Short ● Medium ● Long

Strength

	Circuit 1	Circuit 2
● Short	x2	x1
● Medium	x2	x2
● Long	x3	x2

_Short = 30 minutes

_Medium = 45 minutes

_Long = 60 minutes

Reading the Program



Cardiovascular Training Intensity

Intensity	Rate of Perceived Exertion	% of Max Heart Rate
Easy	5 out of 10	65%
Moderate	7 out of 10	80%
Hard	9 out of 10	90%
Max	10 out of 10	100%

Based of training zones

_Rate of Perceived Exertion

_Heart Rate Based

Reading the Program



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Metabolic Example

LEVEL 1		
Time Per Movement	Rest Between Circuits	Number of Circuits
15 sec ea.	1:30	Short x2 Med x3 Long x4
LEVEL 2		
Time Per Movement	Rest Between Circuits	Number of Circuits
20 sec ea.	1:00	Short x2 Med x3 Long x4
LEVEL 3		
Time Per Movement	Rest Between Circuits	Number of Circuits
30 sec ea.	30 sec ea.	Short x2 Med x3 Long x4



Equipment Based

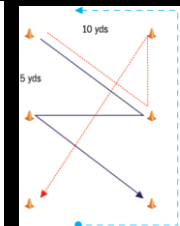
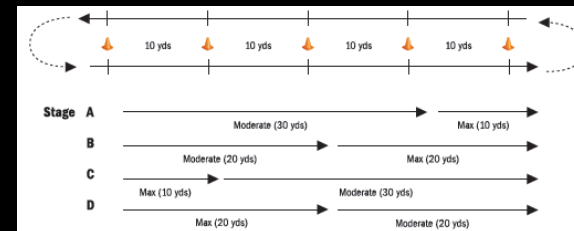
Treadmill, Elliptical, Bike, Rower...



Level 3:	Max	Hard	Moderate	Easy	Short	Medium	Long
Stage A	X	:30 sec	X	1 min	x6	x10	x12
B	X	1 min	X	:30 sec	x6	x10	x12
C	:05 sec	X	:25 sec	:30 sec	x10	x15	x20
D	:10 sec	X	:20 sec	:30 sec	x10	x15	x20

Deck Based Example

Stage:	Pattern	Work	Rest	Short	Medium	Long
A	1	1:00	2:00	x2	x4	x5
B	1	2:00	1:00	x3	x5	x7
C	Alt. 1 & 2	1:00	2:00	x2	x4	x5
D	Alt. 1 & 2	2:00	1:00	x3	x5	x7





Frequently Asked Questions

How to respond to some simple
FAQs from the Sailors

How do I select the level I should start at?

- I would recommend starting out at level 1
- There are a lot of new movements that you will be introduced to
- You may end up progressing quickly through the early stages if you are advanced
- Its great to lay a solid foundation to build on for the rest of the program

When am I ready for the next stage/level?

- Progress to the next stage/level once you are able to...
 - Finish the program in the suggested amount of time
 - Complete all movements with a high quality of execution
 - Progressed through a challenging resistance for each movement in each stage

How much resistance should I use?

- Place an initial emphasis on the quality of your movement
- Once moving clean, select a resistance that you are just able to complete the prescribed reps/sets
- Each set should be challenging – don't cheat yourself

What do I do if I finish all the levels in the NOFFS?

- Once you have completed all the levels in the NOFFS go back and repeat the series
- Your second time around your fitness will have improved greatly
- The resistance you use will have gone up and each program will present a new challenge

How do I adjust the resistance on the bands?

- There are different colors of bands, each is a different resistance
- If you need more resistance you can wrap the band around your foot to shorten the band – effectively increasing the resistance

How many times a week should I workout?

- We recommend 3-4 training sessions a week
- Try not to link multiple days in a row
- Mix in lower intensity days when training multiple days in a row
 - _involving Pillar Prep, Movement Prep, Light Machine Based Cardio, Recovery

The 30 min program took me 60 min! What's up with that?

- The first few times you complete a program you may find that you are a bit behind the time allotted to that workout
- As you become more familiar with the movements and the workouts you will begin to move quicker through the programs
- Stay focused during your session and stay efficient

I have access to some other equipment (ex. TRX, Kettlebells) – can I incorporate that into the NOFFS?

- If you have different equipment availability you can incorporate it into the NOFFS series
- Some of the movements can be simply executed with a different modality (ie. DBs and KBs can swap easily for many movements)
- Always ensure that the program remains balanced
 - _Upper Push
 - _Upper Pull
 - _Lower Push
 - _Lower Pull



Questions?
Comments?
Discussion...