



ONBOARD

a fit seafarer = a safer ship



test your condition
avoid injuries
exercise



Manual of onboard exercises to help you keep fit

Fitness training is the physical activity people use to improve or maintain their physical condition. Specific examples are: power training, cardiovascular training, aerobics, spinning and step aerobics.

Through fitness exercises we try to improve our stamina, suppleness and strength.

Staying fit helps in many ways :

- It makes you physically and mentally stronger
- You are more balanced, without stress or physical hindrance
- Digestion improves
- Weight is kept under control
- Blood sugar stabilises, preventing diabetes
- Sleep improves
- Concentration improves as well as self confidence
- Bones and muscles get stronger, reducing the risk for injuries and disease
- Blood pressure stabilises and the amount of "good" cholesterol increases, reducing the risk of cardiovascular disease

The possibility of doing any fitness exercise is limited on a ship. Even modern ships cannot always fulfil the needs of today's seafarers to do sport and fitness activities.

The International Committee on Seafarers' Welfare (ICSW) is fully aware of the social and health benefits of sports and has launched this project "FIT ONBOARD" as one of the 7 topics in the Seafarers' Health Information Programme (SHIP).

Test your condition

Before starting fitness training it is important to determine your level of training.

1. Untrained : never trained and/or above 50 yrs
2. Beginner : occasional training during the last year
3. Advanced : trains 1 - 2 times per week
4. Sportsmen : trains 3 - 4 times per week

Measure your heart rate

The resting heart rate (RHR) is a general indication of a person's physical condition.

Heart rate at rest (heartbeats per minute)								
Age	Male				Female			
	Weak	Medium	Good	Excellent	Weak	Medium	Good	Excellent
20 - 29	86 +	70 - 85	60 - 69	61 or less	96 +	78 - 95	72 - 77	71 or less
30 - 39	86 +	72 - 85	64 - 71	63 or less	98 +	80 - 97	72 - 79	71 or less
40 - 49	90 +	74 - 89	66 - 73	65 or less	100 +	80 - 99	74 - 79	73 or less
50 +	90 +	76 - 89	68 - 75	67 or less	104 +	81 - 103	76 - 83	75 or less

During training however measuring the heartbeat is important to maintain the appropriate level of exercise.

The **Maximum Heart Rate (MHR)** determines the level of training you may use. It is easy to calculate:

220 minus your age in years

e.g for somebody of 45 years:

$MHR = 220 - \text{age} = 220 - 45 \text{ years} = 175 \text{ heartbeats per minute}$

To maximise beneficial training the heartbeat has to be above the "training threshold" of 60% of the MHR.

In our example the "training threshold" for a 45 year old is
 $175 \times 60\% = 105 \text{ beats per minute.}$

For more tests to establish your level of fitness see "Guidelines for Fitness Onboard of Merchant Ships" on **www.seafarershealth.org**

Avoid Injuries by Warming-up and Cooling-down

A safe and effective training session starts with 10-15 minutes warm-up to stimulate blood circulation in the whole body and all the muscles. The heart rate should go up to 60% of the MHR (see above). A good warm-up prevents injuries especially in the untrained and beginners.

After exercising for at least twenty minutes gradually reduce the intensity of the exercise, finish and then do the same warm-up exercises to cool-down. Stretch the muscles used during training, and remember :

- Stretch in a rhythmic way but don't bounce
- Stretch slowly and steadily, with attention to stretching at the end of the movement
- Hold the stretch for a slow count to ten
- Don't push yourself into a painful stretch

For more information on warming-up and cooling-down see
"Guidelines for Fitness Onboard of Merchant Ships"

www.seafarershealth.org

Training with a DYNA BAND

Used in a correct way the DYNA BAND can improve stamina, strength and flexibility.

To train muscle strength maximum intensity is not necessary, 60 to 80 % is enough. A recommendation of 8 to 10 reps at 80% of maximum level for athletic training or 10-16 reps at 60-70% for beginners.

The colours of the DYNA BAND relate to the resistance :

- Pink/red for starters
- Green/blue for medium resistance
- Purple/yellow for the experienced user
- Grey for super athletes

BE CAREFUL !

- People with hypertension (above 140/90 mm Hg) should NOT work with high resistance. Light resistance DYNA BANDS under medical guidance is the message for them !
- People with new or old joint lesions especially to hands, wrists, arms, shoulders, knees and ankles should NOT work with high resistance bands and should pay attention not to use the DYNA BAND on these joints

PRACTICAL TIPS

- When tying the DYNA BAND, use a bow or knot. Tying a half bow is recommended. Leave one long end for a loop. Due to its unique properties, a DYNA-BAND Resistive Exerciser is easily untied
- When exercising, try to maintain the natural width whenever possible. This will also prevent the exerciser from sliding up the legs or digging into hands



DO's



DON'T's



Do conduct a proper warm-up



Do work the muscles throughout the full range of motion



Do work the large muscle groups first



Do strengthen all the major muscle groups to minimize the chance of developing imbalances



Do breathe evenly while performing exercises



Do allow one day of rest between training sessions.

Rest is equally important to improvement in strength as the training itself



Don't just work on chest and biceps

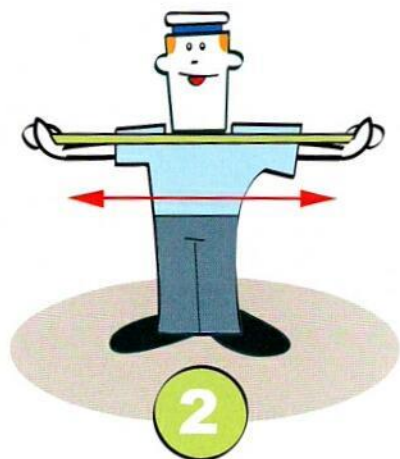
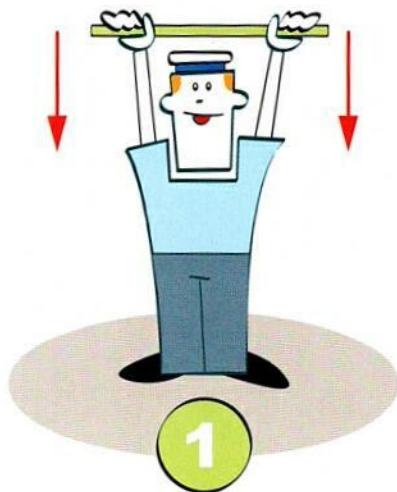


Don't overextend or lock the joints



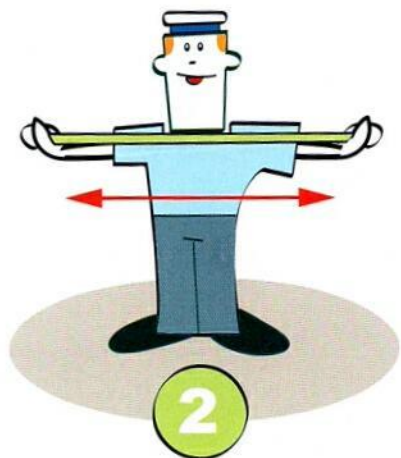
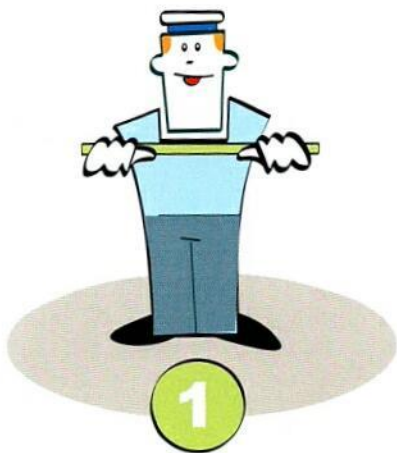
Don't hold your breath

Exercise 1 "Arm Pull Down"



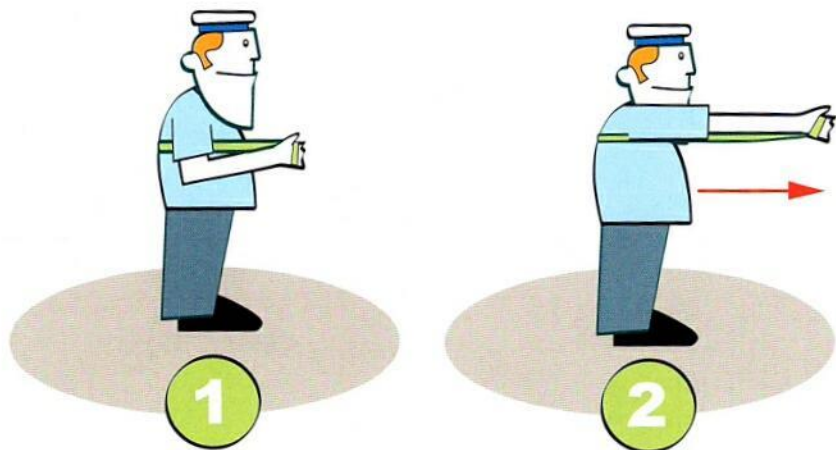
- Wrap the exerciser around your hands (shoulder-width apart)
- Extend your arms above your head
- Pull your arms down and out to side (to shoulder level)
- Slowly raise your arms above your head again
- Drop your shoulders between reps

Exercise 2 “Horizontal Arm Pull”



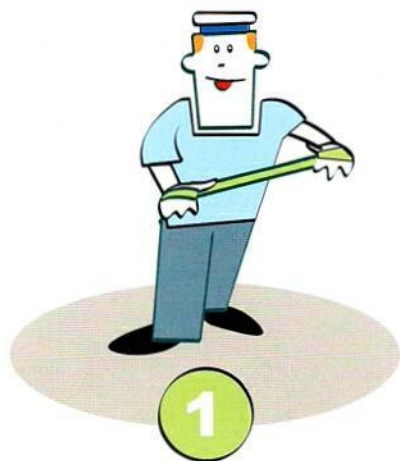
- Grip or wrap the exerciser around your hands (shoulder-width apart)
- Be sure that your palms remain facing up
- Extend your arms in front of your body – approximately 4 inches below shoulder level
- Pull your arms to side, level with your body – **DO NOT OVEREXTEND THE BACK**
- Pinch your shoulder blades together
- Slowly return your arms to starting position
- Drop your shoulders between reps

Exercise 3 "Horizontal Chest Press"



- Place the exerciser against your back across your shoulder blades
- Grip the exerciser's ends with both hands beneath each armpit
- Lay the end of the exerciser across your palms
- Take up the slack in the exerciser until it rests snugly against your back
- Push your arms forward
- Slowly return to starting position

Exercise 4 "Shoulder Extension/Flexion"



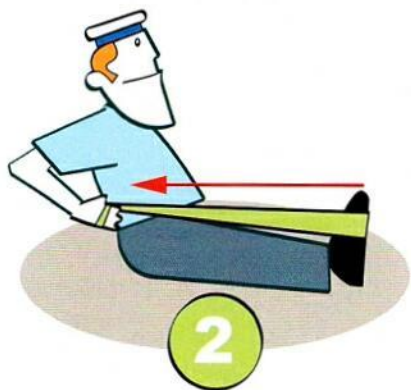
- Grip the exerciser in front of your body
- Space hands approximately 12 inches apart
- Place one arm slightly higher than the other
- Align the top arm with the same shoulder at approximately 45 degrees shoulder flexion
- Flex the top to shoulder
- Simultaneously, extend the bottom shoulder and arm
- Hold
- Slowly return to starting position
- Repeat

Exercise 5 "Seated Row"



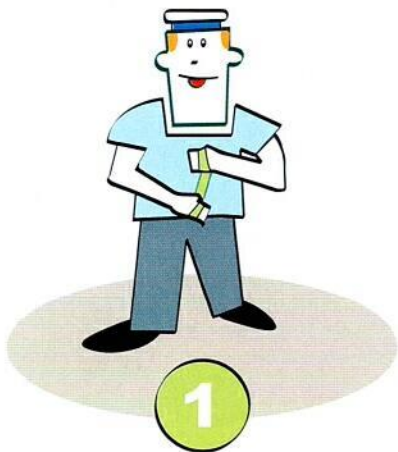
- Sit on the ground with your legs straight out in front of you – maintain good posture
- Grip each end of the exerciser
- Loop the exerciser under the balls of both feet

- Pull both ends of the exerciser toward your torso
- Lead with the elbows – keep elbows close to your torso
- Hold
- Slowly return



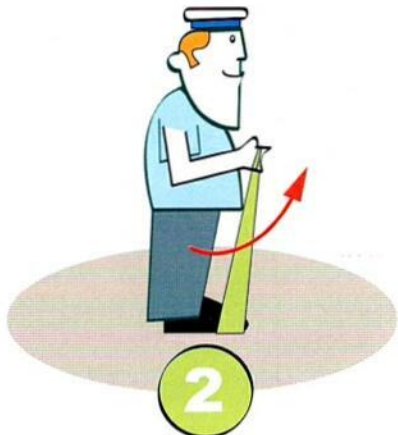
If you are not able to stretch your legs straight out in front of you, bend your knees enough to maintain a good posture

Exercise 6 “Vertical Tricep Press”



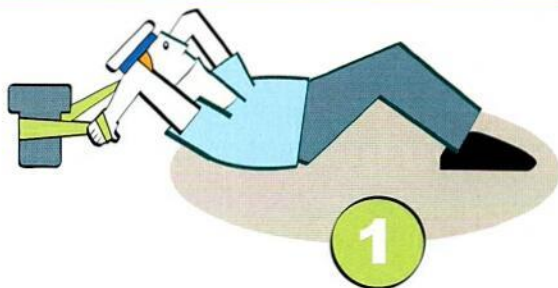
- This exercise uses only half of the exerciser
- Grip the exerciser in the middle and at one end
- Place one hand in front of the opposite shoulder joint
- Place your other hand directly below
- Extend the bottom arm down – keeping the top arm still
- Hold
- Slowly return

Exercise 7 “Bicep Curl – standing”

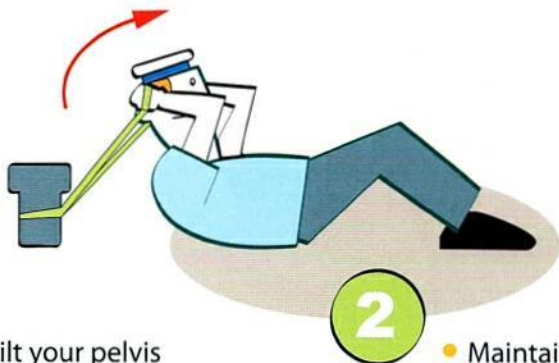


- Place one end of the exerciser on the floor, with your foot on top of it
- Grip the other end of the exerciser with your hand on the same side
- Take up any slack with your arm extended
- Place your elbow on your hip or close to your body
- Turn your palm upwards or facing midline of the body (thumb on top)
- Keep your wrist straight
- Curl your arm up
- Slowly return to starting position

Exercise 8 “Abdominal Curl”



- Loop the exerciser around the leg of a stationary object (sofa, heavy table, etc.) or use a partner
- Grab both ends of the exerciser behind or on top of your head (keep contact with your head)



- First tilt your pelvis
- With elbows apart, slowly raise your shoulders off the floor
- Hold for five seconds
- Maintain your pelvic tilt
- Slowly return to starting position
- Perform curls to the right, left and centre



REMEMBER : Lift your shoulders and head together as one single unit. Do not just lift your head.

ADDITIONAL TIPS

- With standing exercises, **BODY ALIGNMENT IS CRITICAL**. Keep your shoulders square, contract your abdominal muscles and relax your knees. Be sure to practise the safest posture possible by maintaining the natural spinal curve.
- Upper body exercises may be performed with your legs stationary or while practising continuous wide-stance sways, half-squats, walking or other foot patterns.
- If you are a beginner or unfit , use the exerciser as a tool to promote movements with little resistance, and **GRADUALLY** increase the resistance.



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