



# STAY HEALTHY ONBOARD GUIDE

MAY 2023

## Hypertension



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## INTRODUCTION

### *Key Facts*

- Approximately 1.28 billion adults aged 30–79 years worldwide, have hypertension. (WHO)
- Approximately 46% of adults with hypertension remain unaware of their condition. (WHO)
- Hypertension is a main cause of death worldwide. (WHO)
- Seafarers have a tendency towards pre-hypertension and hypertension due to increased levels of overweight and obesity. (Sagaro G.G., Canio M.D & Amenta F., 2021)

### *Overview*

Hypertension refers to a higher than normal blood pressure. A normal blood pressure (BP) is less than 120 systolic, and 80 diastolic pressures.

120/80mmHg

BP fluctuates during the day, based on several activities. A consistent high BP might result in the diagnosis of hypertension. **Table 1.**, indicates the ranges for normal, moderate, and high BP.

**Table 1.** BP ranges, according to The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure Guidelines (2003).

|                         |                            |
|-------------------------|----------------------------|
| <b>Normal BP</b>        | Less than 120mmHg systolic |
|                         | Less than 80mmHg diastolic |
| <b>Pre-hypertension</b> | 120–139mmHg systolic       |
|                         | 80–89mmHg diastolic        |
| <b>Hypertension</b>     | 140mmHg or higher systolic |
|                         | 90mmHg or higher diastolic |

Hypertension is the risk factor for other health issues such as heart disease, heart attack, and stroke. People with hypertension usually do not have any symptoms, hence they might be unaware of their condition unless their BP is checked (see **Appendix 2**).

Factors such as older age, genetics, overweight or obesity, physical inactivity, high-salt diet, and heavy alcohol increase the risk of developing Hypertension.

## RISK FACTORS

- **Diabetes**

Studies suggest that 6 out of 10 people that have diabetes, have Hypertension. When having diabetes, sugars accumulate in the blood, and therefore heart disease risk is increased.

- **Diet high in Salt and low in Potassium**

Salt, which is chemically known as sodium chloride, contains 40% sodium and 60% chloride. High consumption of salty foods increases BP. Salty food sources include cured meat, smoked meat, stock cubes, canned meat or fish or legumes, frozen meals, pre-packed food, salted nuts, processed cheese, processed sauces, or dressings, and canned or dehydrated soups. Additionally, restaurant foods are considered the main source of salt in the diet (see **Appendix 1**).

Potassium is another important mineral, which if inadequate in diet, can increase BP. Potassium is found mainly in bananas, potatoes, beans, and yogurt.

Below are indicated the top 10 sodium sources in the diet, according to the Centres for Disease Control and Prevention.

Top 10 Sodium Sources

Breads & rolls

Pizza

Sandwiches

Cold cuts & cured meats

Soups

Burritos & tacos

Savoury snacks (chips, popcorn, pretzels, snack mixes, crackers)

Chicken

Cheese

Eggs & omelettes

- **Physical Inactivity**

Regular physical activity plays an important role in lowering BP. Heart and blood vessels are stronger by doing regular physical activity, which then result in lower BP. Additionally, physical activity helps in maintaining a healthy weight which contributes to a lower BP.

- **Obesity**

Several studies suggested that obesity is linked with higher risk of developing Hypertension. A recent review indicated that approximately 65–78% of the cases of primary hypertension are linked with obesity; primary hypertension is when the causes of hypertension remain unknown. (Shariq O.A. & McKenzie T.J., 2020)

- **Alcohol**

Alcohol guidelines include up to one drink a day for women, and up to two drinks for men. Heavy alcohol drinking can raise blood pressure, leading to Hypertension.

- **Tobacco use**

Tobacco use increases the risk of developing Hypertension. This happens due to the damage of heart and blood vessels which results from tobacco use. Additionally, nicotine in tobacco, increases BP, because breathing the carbon dioxide produced from smoking tobacco, reduces the amount of oxygen that can be carried in blood.

- **Genetics and Family History**

Hypertension risk raises when other family members have high BP, heart disease, or other related conditions. Genetics, along with other Hypertension risk factors, increases the risk.

- **Age**

The risk of developing Hypertension increases with age; the older a person is, the higher the risk.



## HYPERTENSION SYMPTOMS

Usually, people with Hypertension do not experience any symptoms. However, if BP is very high some symptoms might be experienced and include:

- Severe headaches
- Chest pain
- Dizziness
- Difficulty breathing
- Nausea/vomiting
- Blurred vision
- Anxiety
- Confusion
- Ear buzzing
- Nosebleeds
- Abnormal heart rhythm

If Hypertension is left untreated, serious health conditions can occur such as kidney disease, heart disease, and stroke.



## STEPS FOR MANAGING PREVENTION

Prevention of Hypertension can be managed if certain lifestyle changes occur. However, people on medication should continue taking them, or else as recommended by the doctor.

### 1. Follow a Healthy and Well-balanced Diet!

Diet plays a crucial role when it comes to managing Hypertension. Diet should consist of fruits and vegetables, whole grains, low-fat dairy products, skinless poultry and fish, nuts and legumes, and non-tropical vegetable oils. Saturated and trans fats, sodium, red meat, and sweets or sugar-sweetened beverages should be limited.

Whole grains on board include:

- Red rice
- Fruits & vegetables
- Boiled potato with skin (for e.g., dill potatoes)
- Porridge

Food sources with saturated fat on board include:

- Butter, ghee
- Cured meat
- Sausages
- Bacon
- Red meat (pork, lamb, beef)
- Milk and dairy products (cheese, yogurt, ice cream)

Food sources with trans-fat on board include:

- Fried food
- Sweets
- Cakes
- Buttered fish

## **2. Limit salt!**

The World Health Organization recommends less than 5g (1 teaspoon) of salt per day. A high daily salt intake is associated with high BP.

## **3. Limit alcohol!**

The more the daily alcohol consumption, the higher the risk of Hypertension.

## **4. Maintain a healthy weight!**

Having overweight or obesity increases risk of developing Hypertension. There is a linear association with body weight and BP, the higher the body weight, the higher the BP. A weight loss of approximately 5kg, lowers BP significantly. (NHLBI, 2003)

## **5. Quit tobacco use!**

Studies confirm that tobacco use can worsen Hypertension and make it harder to manage high BP even if on medication; each single time of tobacco use, BP rises. Additionally, by quitting tobacco use, cardiovascular disease risk is much lower. (Chang J.T. et al., 2021)

## **6. Manage stress!**

Blood pressure physiologically increases with stress due to hormonal changes. However, an unhealthy diet or heavy drinking which are linked to stress, can result in long-term high BP.

## **7. Exercise!**

Regular physical activity delays the development of Hypertension and lowers BP levels if already having Hypertension. Physical activity strengthens the heart, pumping blood more efficiently.

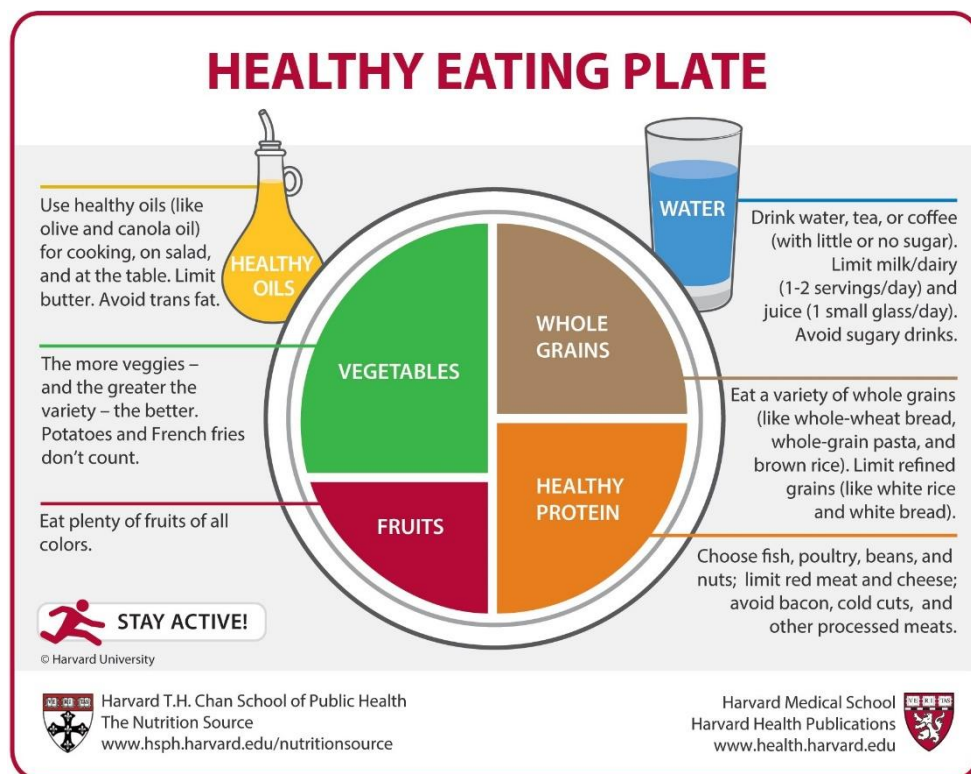


## STEPS FOR MANAGING HYPERTENSION ON BOARD

Poor diet habits, physical inactivity, alcohol or tobacco use, and work-related stress which are all linked with seafaring, are factors that increase risk of Hypertension when on board. Steps for managing prevention are crucial so to prevent and manage Hypertension and other related health conditions.

### ❖ Eat healthy and well-balanced!

It is very important to eat healthy, by focusing on the Harvard Healthy Eating plate below, and limiting high salt foods. Remember to always combine foods from 3 main food groups: grains, protein, and vegetables or fruits to create a well-balanced meal.



### ❖ Exercise daily!

Organizing group activities such as workouts, stretches, or games on board, it is a great way to reduce risk of Hypertension. Additionally, exercising with the gym equipment if available on board, or even muscle strengthening exercises, such as squats and lunges, can lower risk of high BP, significantly.

### ❖ Manage body weight!

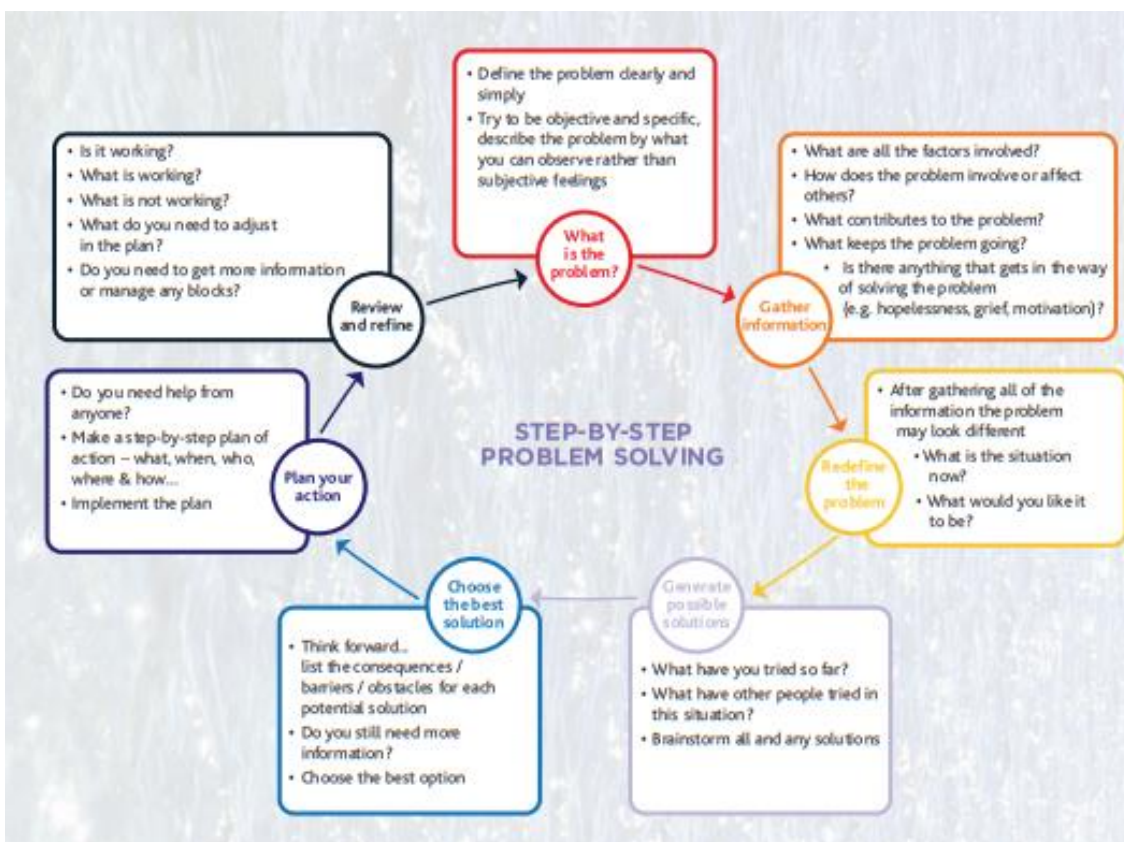
By following a healthy diet, and doing regular physical activity while on board, lowers the risk of Hypertension, and other health conditions such as cardiovascular disease, and diabetes.

### ❖ Quit smoking!

Seafaring on its own, is considered a 'risky' occupation in terms of work-related stress. Smoking, a habit which usually is linked with stress, can have a serious impact on the quality of life, increasing risk of developing serious health conditions, such as Hypertension.

### ❖ Manage stress!

Below infographic from the International Seafarers Welfare and Assistance Program, is a great method to manage stress while on board.



Oceanic provides the Seafarer Assistance Program which aims to help with issues such as family problems, stress, anxiety, depression, and more. Find more information by contacting [medical@seamed24.com](mailto:medical@seamed24.com).



### Oceanic's Suggestions:

- ✓ Quit tobacco use!
- ✓ Maintain a healthy body weight!
- ✓ Keep an eye on salty foods!
- ✓ Manage stress!
- ✓ Exercise!
- ✓ Follow a healthy and well-balanced diet!

## High Blood Pressure-friendly Recipe

*Braised chicken breast with mushrooms, rice pilaf and broccoli with almonds*

### Braised chicken breast with mushrooms (10 servings)

Ingredients:

400g dry yellow onions  
50g English mustard  
500g white button mushrooms  
2kg boneless chicken breast  
50ml cooking oil  
1g cooking salt  
3g ground black pepper  
1g sweet paprika  
1kg fresh parsley  
100ml chicken stock



Method:

1. Sauté onions and mushrooms in a large skillet over medium heat.
2. Remove the onions/mushrooms mixture from skillet and place them in another bowl.
3. Add the chicken breasts to skillet, sauté for 4 minutes and then turn over.
4. Add the onions/mushrooms mixture on top.
5. In a small bowl, mix salt, pepper, paprika, and parsley and then sprinkle the mixture over the chicken.
6. In a medium bowl combine the broth and mustard, and blend together. Brandy can be added as optional ingredient.
7. Pour over chicken, reduce heat to low, and simmer for 20-25 minutes or until chicken is cooked.

**Note:** The Minimum Internal Cooking Temperature for poultry is 165°F (74°C) for 15 seconds

### Rice pilaf (10 servings)

#### Ingredients:

500g Thai long grain rice  
50ml olive oil  
100g sliced green onions (scallion)  
100g chopped celery  
1g cooking salt  
1g red chilli powder  
2g ground black pepper  
100g carrots  
1,500ml chicken stock



#### Method:

1. Check rice cooking instructions:  
Add 4 cups of water (if 2 cups of water per cup of rice)  
Add 3 1/3 cups of water (if 1 2/3 cups of water per rice)
2. At least half of the needed water should be stock (homemade stock is recommended for a better quality).
3. Heat the measured stock in a saucepan, at least 2qt sized.
4. Heat a large skillet on medium high heat.
5. Add the chicken fat or oil and wait until melted or until it covers the bottom of the pan.
6. Add the rice uncooked, until becoming brown, stirring occasionally for 1-2minutes.
7. Add the onions and celery and cook for a few minutes until onions become softer.
8. Carefully empty the slightly brown rice onto the saucepan with the stock.
9. Bring to a simmer, reduce the heat, cover, and cook for as long as the instructions say on the package (usually 15-25minutes).
10. When ready, remove the pan from the heat and let sit covered for 10 minutes.

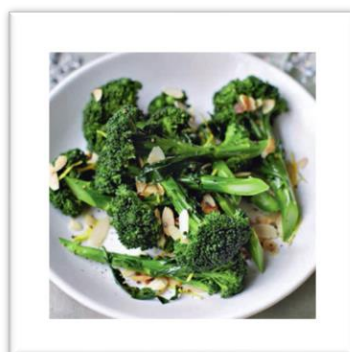
#### Notes:

- The Minimum Internal Cooking Temperature for poultry is 165°F (74°C) for 15 seconds.
- If using canned or boxed broth, be careful how much seasoning is added.
- If homemade stock is used, add 1-2tablespoons of Vegesal or other salt, ground pepper and a dash of cayenne.

### Broccoli with almonds (10 servings)

#### Ingredients:

1kg broccoli  
100g raw sliced almonds  
50g unsalted butter  
10g ground nutmeg  
1g cooking salt



Method:

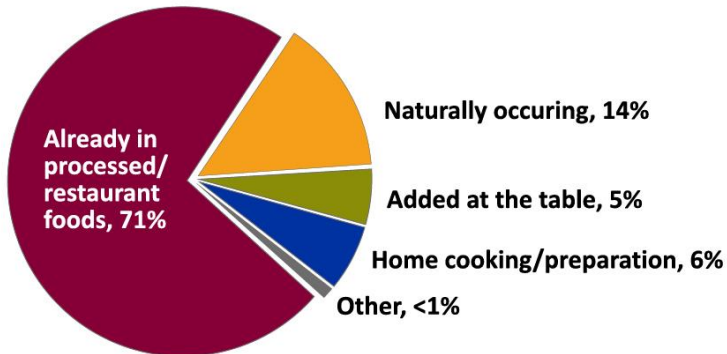
1. Separate the florets and trim off any hard leaves.
2. Boil or steam the broccoli.
3. Using a slotted spoon, transfer the broccoli florets to a plate.
4. Top with butter, almonds, and nutmeg.

If a certain food is not available at your vessel, you might order.

## Appendices

### Appendix 1.

#### Most Sodium Consumed Comes from Processed and Restaurant Foods



Harnack LI, Cogswell ME, Shikany JM, et al. Sources of Sodium in US Adults from 3 Geographic Regions. *Circulation*. 2017;135:1775-1783.



### Appendix 2.

### The Correct Way to Measure Blood Pressure

**Before your reading**

- No food or drink for 30 minutes
- Empty your bladder

**During the reading**

- No talking
- Arm resting at chest height
- Cuff against bare skin
- Back is supported
- Sit with feet flat on floor

Visit [cdc.gov/bloodpressure](https://www.cdc.gov/bloodpressure) for tips and resources.



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