



Original Research Article

HYPERTENSION - PREVENTION AND MANAGEMENT THROUGH YOGA (SPECIALLY FROM SHAVASANA)

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Abstract: Blood pressure is the force exerted by circulating blood on the walls of blood vessels, determined mainly by cardiac output and vascular resistance. When it persistently rises above 140/90 mm Hg, it is termed hypertension. Hypertension is a major risk factor for cardiovascular and other systemic complications, highlighting the importance of early detection and proper management.

Keywords: Blood Pressure, Hypertension, Cardiac Output, Vascular Resistance, Cardiovascular Risk, 140/90 mm Hg, Systemic Complications.

INTRODUCTION

Blood pressure is the force exerted by the blood against the wall of the blood vessels and the magnitude of this force depends on the cardiac output and resistance of the blood vessels.

Hypertension is having a Blood pressure higher than 140 over 90 mm Hg.

Prevalence (2025):
Globally, about 1.4 billion adults (around 33% of the

adult population) are living with hypertension, making it one of the most common public health problems worldwide.

Grades of hypertension -

S.No.	Blood pressure	Range mm Hg
1.	Normal Blood pressure	120 Systolic and 80 Diastolic
2.	Pre hypertension stage	120-139 Systolic and 80-89 Diastolic
3.	1 stage of hypertension	140-159 Systolic and 90-99 Diastolic
4.	2nd stage of hypertension	160-179 Systolic and 100-109 Diastolic
5.	3rd stage of hypertension	>180 Systolic and >110 Diastolic
6.	Hypertension (rises medical emergency)	>180 Systolic and >110 Diastolic

SURVEY (Data Collection) -

Data From the National Health and Nutrition Examination Survey (2021–23) By U.S.(World Wide)

Year (2021–23)

Age Group->18

Percentage of Sufferers - 47.7 %

Medication- 51.2 %

Controlled- 20.7 %

Person aware- 59.2 %

Person treated - 51.2 %

Ratio Percentage - rough ratio based on prevalence ~ 1 in 2 adults has hypertension.

Indian Survey - Public Health Foundation of India

Year-2025

Global percentage - 24.1 % (Male)

- 21.2 % (Female)

Possibility in 2026- Male and Female-(22.6 %)

Causes of Hypertension -

- Disease Burden of High Blood Pressure is a growing problem in world wide.
- Physical inactivity
- A salt rich diet through and fatty foods.
- Alcohol and tobacco use.
- **Age**-Every one is of greater risk of the high blood pressure as they get older people over 60 year of age.
- **Race**- African American adult are at higher risk.
- **Sex**-Man and women have different risk prospective while women are more prone at older age.
- **Lifestyle** - From greater uptakes of dietary salt excessive alcohol low dietary potassium and physical inactivity.

Specific causes of Hypertension

Primary Hypertension:- have a multiple factors-

- (a) Blood plasma volume
- (b) Activity of renin-angiotensin system.
- (c) Hormonal disorders causing an imbalance between potassium and sodium levels.

Secondary Hypertension :-

- (a) Primary aldosteronism
- (b) Use of oral contraceptive which can cause a slight rise in blood pressure.
- (c) Hormonal therapy for menopause is also culprit.

Other causes of secondary hypertension

- (1) Kidney disease
- (2) Pheochromocytoma
- (3) Cushing syndrome
- (4) Congenital hyperplasia (disorder of the adrenal gland which secrete the harmonic cortisol)
- (5) Hyperthyroidism (overactive thyroid gland)

Recent development causes hypertension-

- **Food container plastics linked to hypertension-** Chemical supposed to be safe replacement for harmful chemicals in plastic are linked to hypertension.
- **Gradual increase in salt Intake to HBP** - Ever a small difference in dietary salt consumption among people who do not have hypertension may result in critical differences in individual blood pressure after several year's.
- **Early stressed teenagers have increased hypertension risk factor in life-** A new study that followed 1.5 million teens through to adulthood investigates the role of early psychological parameters on the adulthood of developing hypertension.

SYMPTOM OF HYPERTENTION-

Hypertension can lead to problems in the organ affected by high blood pressure in long term. Hypertension can lead to the following complication via. Arteriosclerosis, which causes narrowing of Blood vessels by forming plaques.

- Aneurysm - an abnormal bulge in the wall of an artery.
- Blood vessels narrowing.
- In kidney leading to possible kidney failure
- Heart leading to potential heart attack.
- Blood vessels in eyes may rupture or blood leading to vision problems or blindness.

Maintaining a good blood pressure :-

There are many life style changes you can make to help keep your blood pressure within a healthy range.

- Reduce your intake of salt.
- Have your B.P. Checked an then monitor it regularly.
- Maintain a healthy Body weight.

- Eat more fruits and vegetables.
- Don't smoke
- Watch your alcohol intake (no more than two drinks/day for men or one drink/day for women.)
- If you have been prescribed BP medication; take it as directed.
- If you have trouble with medication side effect talk to your health care professional about other Medication you can try.

5 Mantra's For Early Prevention of Hypertension

- Healthy diet
- Healthy weight
- Physical activity.
- No smoking
- Limited alcohol

Healthy Diet- Choosing healthful meal and snacks can avoid, high Blood pressure and its complication the individual to eat plenty of fresh fruit and vegetables.

- Eat food which low in salt (sodium)
- High in potassium can low your blood pressure.
- DASH (Dietary Approaches to stop hypertension) one healthy diet that is proven to help people lower their blood pressure.
- Other nutrients may also help prevent high blood pressure.
- **Potassium**-Eating food rich in potassium will help protect some people from developing high blood pressure. Many fruits, vegetables, dairy foods and fish are good sources of potassium.
- **Calcium**- Population with low calcium intakes have rates of high blood pressure. It has not been proven that taking calcium tablets will prevent high blood pressure. Recommended amount 1000 mg/day (19 to 50 years), 1200 mg/day (pregnant and breast feeding women).
- **Magnesium**- a diet low in magnesium may your blood pressure rise but doctor don't recommend tacking extra magnesium to help prevent high blood pressure the amount you get in a healthy diet is enough.
- **Fish oils**- A type of fat called omega-3 fatty acids is found in fatty fish like mackerol and salmon, large amount of fish oil may help reduce high blood pressure but their rate in prevention is unclear.
- **Garlic**- There has been some evidence to suggest garlic effect in lowering blood pressure. To determine if your weight is in a healthy range doctors often calculate your body mass index (BMI).

- **Physical activity**- Physical activity can help you maintain a healthy weight and lower your blood pressure for adult, the surgeon general recommend 2 hour and 30 minute of moderate intensity exercise like brisk walking or bicycling, every week. Children and adolescent should get one hour of physical activity every day.
- **No smoking**- Cigarette smoking raises your blood pressure and put you at higher risk for heart attack and stroke. If you do not smoke, do not start quitting will lower your risk for heart disease.
- **Limited alcohol**- Avoid drinking too much alcohol which can raise your blood pressure may should have no more than 2 drinks/day, and women only 1 drink/day.

Yogic management in High blood pressure

The most common cause of high blood pressure is anxiety and stress, we accumulate stress in our work place and also in any competitive atmosphere. Thus high blood pressure has become a life style problem and yogic management of stress can help bring down the blood pressure.

Pranayam for high blood pressure

- Bhastrika pranayama
- Kapalbhati pranayama
- Bhramari pranayam
- Anulom vilom pranayam and Nadi shodhan
- Shavasana

Yoga poses for high blood pressure

- Balasana(child pose)
- vajrasan
- Pawanmuktasan (wind removing pose)
- Shavasana(sleeping straight on back)

The following method can be helpful to maintain blood pressure

1. **Yogic Breathing**- Yogic breathing is the full,deep and relaxed breath which involves filling the air starting from the abdomen breathing, thoracic breathing, observe the expansion of the abdomen first, then chest and finally the neck region. let the natural complete breathing take place while you maintain the fitness attitude of the breathing process, yogic breathing relaxes the body and mind and can reduce anxiety and stress.
2. **Bhramari pranayama**-Also called the humming bee breath is yet another way to calm the mind. Sit in a comfortable sitting posture and plug both your ears with the forefingers, close your eyes and take a deep breath. During exhalation, make a humming sound from the throat sounding like a constant drone of the humming bee.

Bhramari pranayama is known to clean the mind and reduce high blood pressure.

3. **Anulom vilom pranayama**- Also known as the alternate breathing technique can be practiced in any comfortable asana. In anulom vilom pranayam breathing is done from only one nostril of a time, close the right nostril with the thumb and inhale slowly and steadily air from the left nostril till your lung are full this is one round of anulom vilom pranayam, duration inhalation and exhalation ratio of 1:1 in beginning later stage change 1:2 ratio. It also helps in the process of nadi shuddi or cleaning of the pranic channels which creates feeling of good health and energy in the body.
4. **Shavasana**- This is the simplest relaxation pose that can be practiced by everyone the yogic breathing in the lying down position or shavasana. Lie down on your back on the bed or a yoga mat with legs slightly apart the hand can be kept at the sides with palm facing upward breath slowly in a relaxed way feel the deep relaxation. In shavasana emphasis is given to slow rhythmic and relaxed, breathing the yogic breath is a complete breath done with full awareness the abdomen, the chest and the neck (clavicular region) expand during a relaxed deep breathing.

In the yogic breath, as one breathes in one expands the abdomen first, then the chest and then neck region, when breathing out the process is reversed, the neck and chest region contract first and finally the abdomen.

Benefits of shavasana-Shavasana releases stress from all muscle in the body. It relaxes the body and mind giving a sense of well being. It can be done after a workout or after performing other asanas. It

Activation pathway

Stress stimuli are firstly stimulated humoral cell bodies found in substantia nigra.



Then dopamine secretion starts dopamine (is a of type neurotransmitters)



Releasing few minutes dopamine circulating the blood



So, adrenalin excessively secretes and stimulates the sympathetic nervous system result-

1. Raised blood pressure.
2. Raised heart rate.

rejuvenates and rebuild the body .It decrease the heart rate, the rate of respiration and blood pressure. It reduces the metabolic rate gives deep relaxation, reduces anxiety alleviates mild depression and improves sleep.

Shavasana has many physical health benefits especially for the heart

Decreases blood pressure- deeper your breath and relax during shavasana can help decrease your blood pressure.

Reduces your heart rate- high levels of stress can also cause your heart rate to increase the slow breathing techniques and relaxation opportunities that shavasana help reduce heart rate.

Allow the heart to rest-Deep breathing exercise major organ of the body including the lungs forces your lung to work more than they typically do throughout the day and brings in more oxygen to the blood, which then gets sent to the heart.

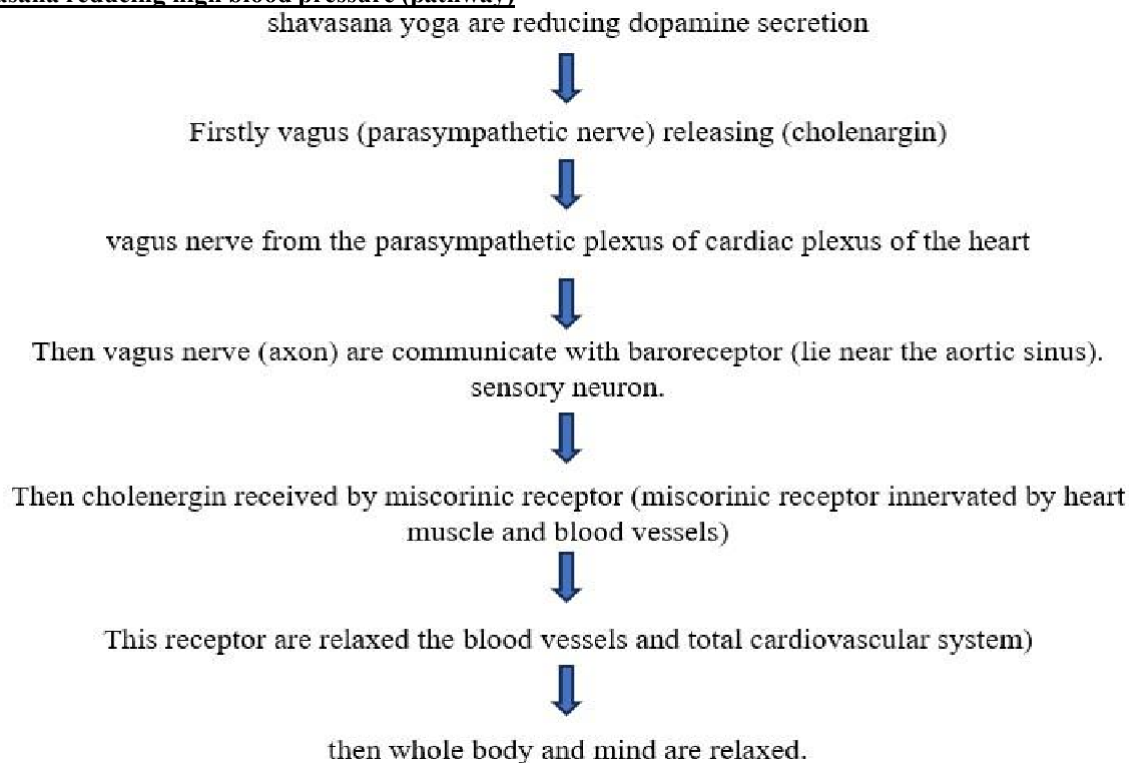
Help you to lead a healthy life style-Living a stressful life makes it more difficult to lead a healthy lifestyle. practice of shavasana along with your slow deep breaths help to reduce stress calm your nervous system and think more clearly overall practicing shavasana can help you make health their choices.

Pathway readucing hypertension by voga

(shavasana)-It stress stimuli is stimulated (brain stem). Head to an integrated response involving a rise in blood pressure. These response are due to general activation of the sympathetic nervous system. which is associated with the emergency reaction of flight-or further one can also assume that such an elevation of blood pressure. when stress increasing middle age group person.

3. Raised fight to flight response.

Shavasana reducing high blood pressure (pathway)



CONCLUSION

At last we can say that early curative management (like diet, weight, lifestyle etc) and yoga which prevent with predominance of sympathetic nervous system and essential hypertension are maintained. Like shavasana and all relaxing yogic method relaxed by S.N.S. activity and slow down the cardiovascular system.

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