



**FRESENIUS
MEDICAL CARE**



NephroCare Patient Training

Focus on Blood Pressure

NephroCare

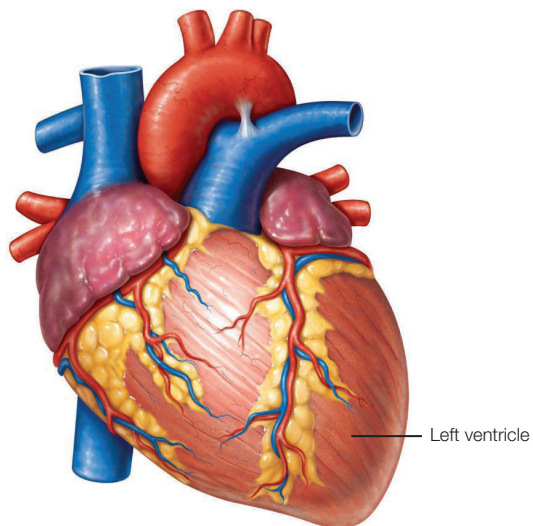
Hypertension

is diagnosed when the blood pressure is consistently above 140/90

When in doubt, please check with your nurse or doctor!

Tips on how to maintain your blood pressure :

- Always take your medication on time every day.
- Ensure good dietary practice to maintain a healthy weight.
- Watch your fluid intake and output carefully.
- Exercise and life style changes also help.



Blood Pressure Measurement

What is blood pressure?

- Blood pressure originates from the left, large, upper chamber of the heart, known as the **left ventricle**.
- When blood pressure is measured, we look at two readings:
 1. **Systolic**
The 'top' reading - **120**.
This is when the heart is contracting and thus pumping the blood into the arteries.
 2. **Diastolic**
The 'bottom' reading - **80**.
This is when the heart is relaxing, ready for refilling with blood, before contracting again.
 3. The cycle repeats itself continuously throughout life.
 4. Normal healthy blood pressure is around **120/80**, relative to age and a few other factors.
- Blood pressure measurement is very important in diagnosing many conditions involving the heart and blood vessels.
- Blood pressure is measured in mmHg (millimeters' of mercury).

The risks of high blood pressure (hypertension)

- Chest pain
- Heart attack
- Heart Failure
- Kidney Failure
- Stroke
- Blocked arteries in the leg or arms (peripheral vascular disease)
- Eye damage
- Aneurysms (weakening of blood vessel walls in places)



How is blood pressure measured?

- **Blood Pressure can be read in 3 different ways:**

1. **Invasive** - where a needle is inserted into an artery in the wrist and attached to a pressure measuring instrument - usually an ICU procedure.
2. **Non-Invasive (digital)** - where a cuff is placed around the upper arm and inflated by a digital device. A digital reading appears on the screen, following inflation and deflation of the cuff.



- 3. Non-Invasive (manual)** - where the cuff is placed around the upper arm and inflated manually while the nurse doctor feels the pulse. Once the pulse disappears the nurse or doctor listens to the beats with a stethoscope, while slowly deflating the cuff.

More points to consider before your blood pressure is measured

- Before the blood pressure is measured, you must relax for a few minutes.
- Place your arm on a flat surface at heart level.
- The cuff must be the correct size (baby, child, small adult, average adult, and obese adult).
- The cuff must be placed 2-3 cm above the antecubital fossa (inner elbow area).
- Appropriate clothing must be worn as the cuff must be on the flesh and not over clothing. Rolling up clothing causes constriction of blood vessels which will affect the blood pressure reading.

On dialysis, the blood pressure will be measured at least hourly, and the cuff must remain on your arm throughout dialysis.

Risks of low blood pressure (hypotension)

- Reduces blood flow to the brain and all other vital organs
- Dizziness or fainting
- Lack of concentration
- Blurred vision
- Fatigue
- Cold and clammy skin
- Rapid shallow breathing
- Nausea and vomiting

What affects blood pressure?

- Volume of water in the body
- Salt content of the body
- Condition of the kidneys, nervous system and blood (arteries and veins)
- Hormone levels in the body
- Age, gender, race, family history
- Overweight, not physically active
- Too much salt with food and drinks
- Chronic disease (chronic kidney disease, diabetes)
- Smoking, alcohol, stress



Be aware of what can go wrong.....

- ***Inaccurate*** blood pressure readings have the potential for ***great harm***:
 1. A missed raised blood pressure or a misclassified blood pressure can cause delay of or no treatment.
 2. A misclassified blood pressure where the patient's true blood pressure is actually lower can cause unnecessary treatment for hypertension.
- ***Never allow treatment on one blood pressure reading only.*** A series of blood pressure readings must be done over days, weeks or months, depending on the severity of the blood pressure.



The information in this booklet is referenced to: Fresenius Learning Centre

References:

1. KDIGO Blood Pressure Work group. KDIGO clinical practice guideline for the management of blood pressure in chronic kidney disease. *Kidney Int Suppl* 2012;2:337-414
2. James PA et al. Evidenced based guideline for the management of high blood pressure in adults. Report from the panel members appointed to the 8th Joint National Committee.

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