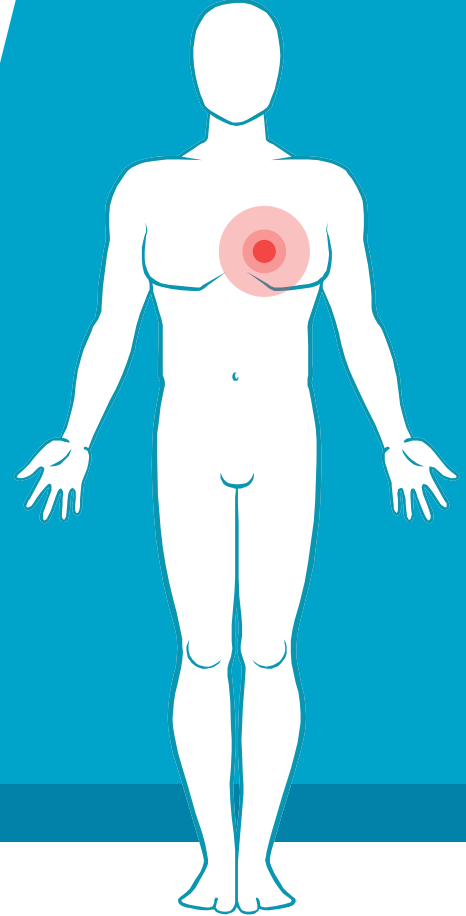


# VITALS SIGNS



# AGENDA

1

Patient Assessment

2

Temperature

3

Pulse and Respiration

4

Blood Pressure

5

Group Stations



*What household appliance would you be and why?*



”

# 1. INTRODUCTION

# What is a Patient Assessment?

Process to learn about a patient's condition

Involves history-taking paired with a physical exam

Used by a variety of medical professionals (physicians, nurses, EMTs)

# What Are Vital Signs?

01

Measurements of body's basic functions

02

Four main routines: body temperature, pulse rate, respiration rate, and blood pressure

03

Crucial in detecting medical problems



# 2. TEMPERATURE



*What body part gets warmer when you lie down?*

*A. Hands*

*B. Heart*

*C. Nose*



”

# What is Temperature?

- Determine someone's body temperature to see if they have a fever
- Depends on gender, recent activity, food and fluid consumption, and time of day



# How to Take Temperature

Temperature can be taken four different ways:

## 1. Orally

- By mouth using a basic thermometer

## 2. Axillary

- Taken under the arm using a basic thermometer

## 3. Ear

- Special thermometer can take temperature in ear drum (reflects core body temperature)

## 4. By skin

- Special thermometer can take temperature of skin on forehead



How to Take a Child's Temperature

# How to Interpret Temperature

## **Normal Body Temperature:**

- Ranges from 97.8-99 degrees F

## **High Temperature:**

- Higher than 99 degrees F
- Indicates a fever
- Means there is some type of illness or virus

## **Low Temperature:**

- Lower than 95 degrees F
- Indicates hypothermia
- Means body is losing heat faster than it is producing it

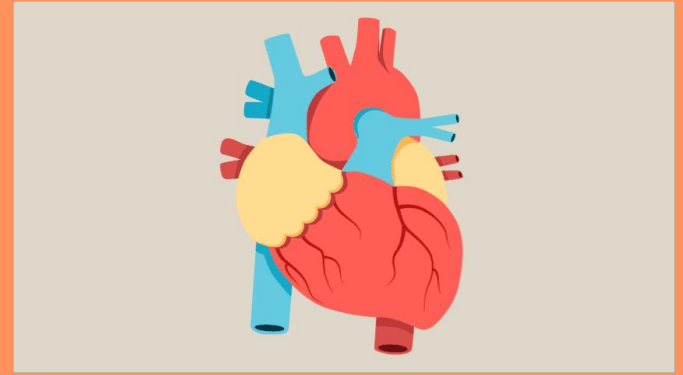
# 3. PULSE & RESPIRATION

*What is the average heart rate for elderly who are over 80 years old?*

A. 53

B. 78

C. 92



”

## What is Pulse?

The number of times the heart beats within a certain time period, usually a minute.

Also called... heart rate!



# Measuring Pulse

Pulse can be felt at the wrist, side of the neck, back of the knees, top of the foot, groin, and other places in the body where an artery is close to the skin.

**Cardial Pulse (CP):** pressure signal acquired over the carotid artery as it passes near the surface of the body at the neck.

**Radial Pulse (RP):** pressure signal acquired over the radial artery as it passes near the surface of the body at the wrist.

## How to Check Your Pulse



1

Turn one arm, so your palm is facing up.



2

Place the middle three fingers of the other arm in the upper groove of the upturned wrist, below where your thumb connects to your wrist.



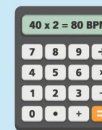
3

Press firmly. You should feel a subtle pulsing beating or throbbing sensation. If you can't feel anything, apply more pressure with the tips of your fingers.



4

Count each pulse you feel for 30 seconds. (A clock or stopwatch is helpful.)



5

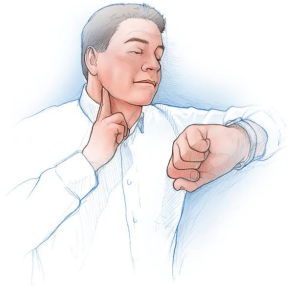
Double the number of pulses you counted. This equals your heart rate in beats per minute (bpm). If you counted 40 pulses, multiply that by two. Your heart rate is 80 bpm.



# Measuring Pulse

## Method 1: Carotid Pulse

1. Place your pointer and middle fingers on the side of your windpipe just below the jawbone. You may need to shift your fingers until you can easily feel your heart beating.
2. Count the pulses you feel for 15 seconds.
3. Multiply this number by 4 to obtain your heart rate.



## Method 2: Radial Pulse

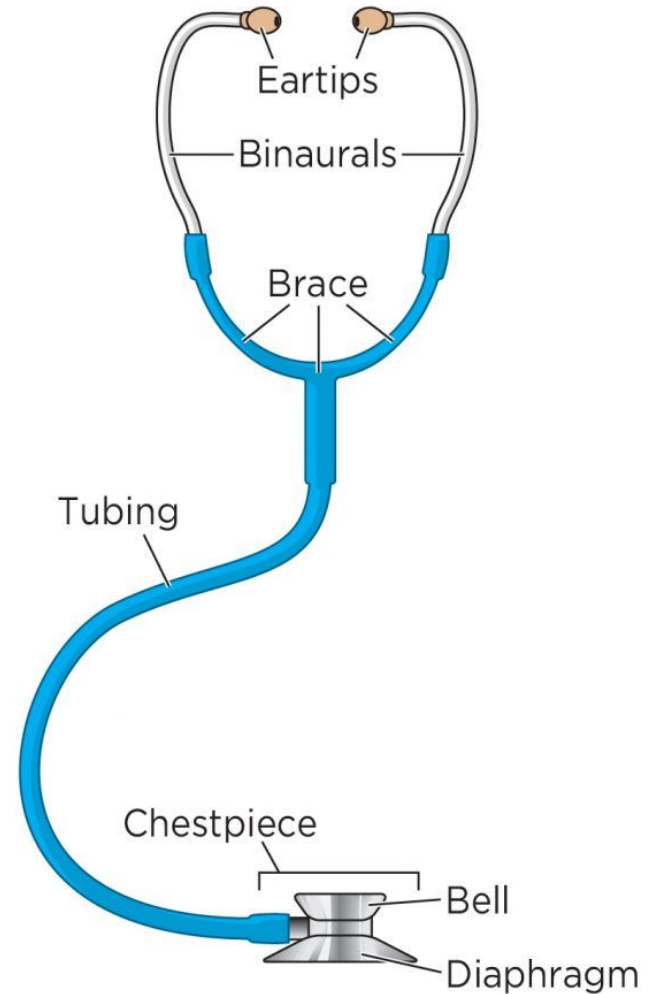
1. Place your pointer and middle fingers on the inside of your opposite wrist just below the thumb.
2. Don't use your thumb to check your pulse, as the artery in your thumb can make it harder to count accurately.
3. Once you can feel your pulse, count how many beats you feel in 15 seconds.
4. Multiply this number by 4 to get your heart rate.

# Measuring Heartbeat: The Stethoscope

Helps hear your heartbeat and your blood flow.

Put the diaphragm over the heart.

Try listening for a full minute.



## Interpretation of Results

The normal pulse for healthy adults ranges from 60 to 100 beats per minute. The pulse rate may fluctuate and increase with exercise, illness, injury, and emotions.

Females ages 12 and older, in general, tend to have faster heart rates than do males. Athletes, such as runners, who do a lot of cardiovascular conditioning, may have heart rates near 40 beats per minute and experience no problems.



60 - 100  
BPM

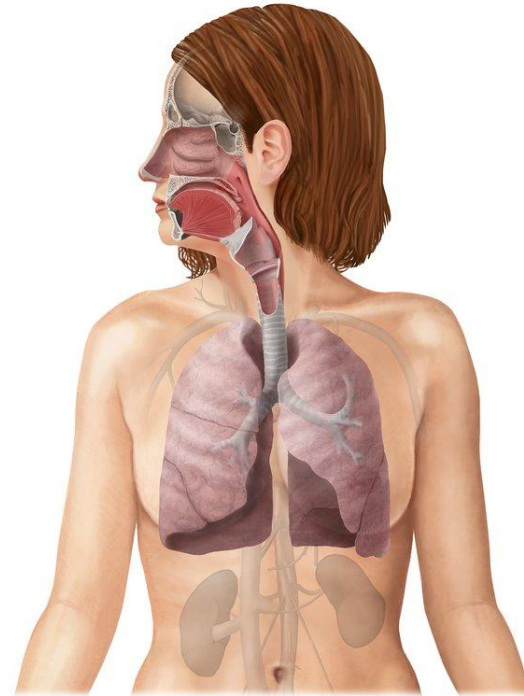
# What is Respiration?

Person's breathing and the movement of air into and out of the lungs.

The respiratory system provides oxygen to body tissues for cellular respiration, removes the waste product carbon dioxide, and helps maintain acid–base balance

The number of breaths a person takes per minute.

Normal respiration rates for an adult person at rest range from 12 to 16 breaths per minute.



## Measuring Respiration Rate

- ▶ Clip the pulse oximeter on your index (pointer), middle or ring finger.
- ▶ Press the button on your pulse oximeter to start it. Keep your hand still.
- ▶ A normal level of oxygen is usually 95% or higher. Some people with chronic lung disease or sleep apnea can have normal levels around 90%.



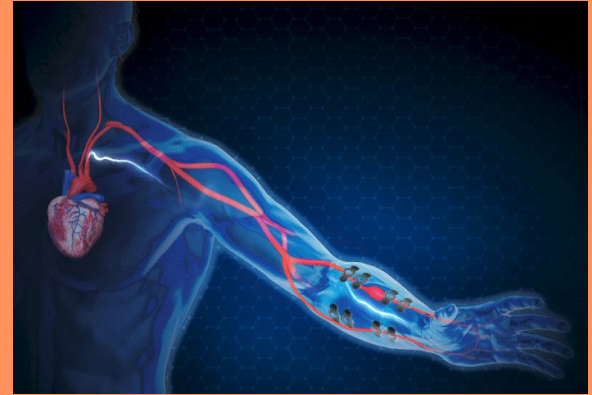
# 4. BLOOD PRESSURE

*What is the average rupture blood pressure?*

*A. 1700 mmHg*

*B. 4000 mmHg*

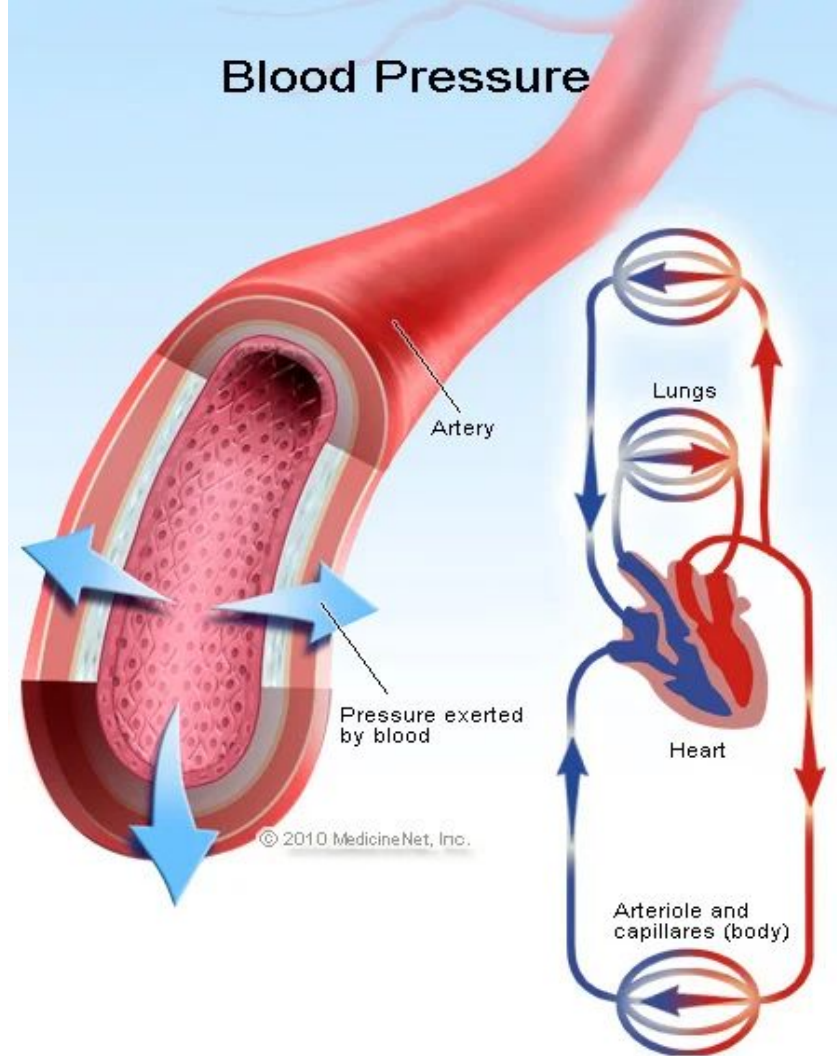
*C. 900 mmHg*



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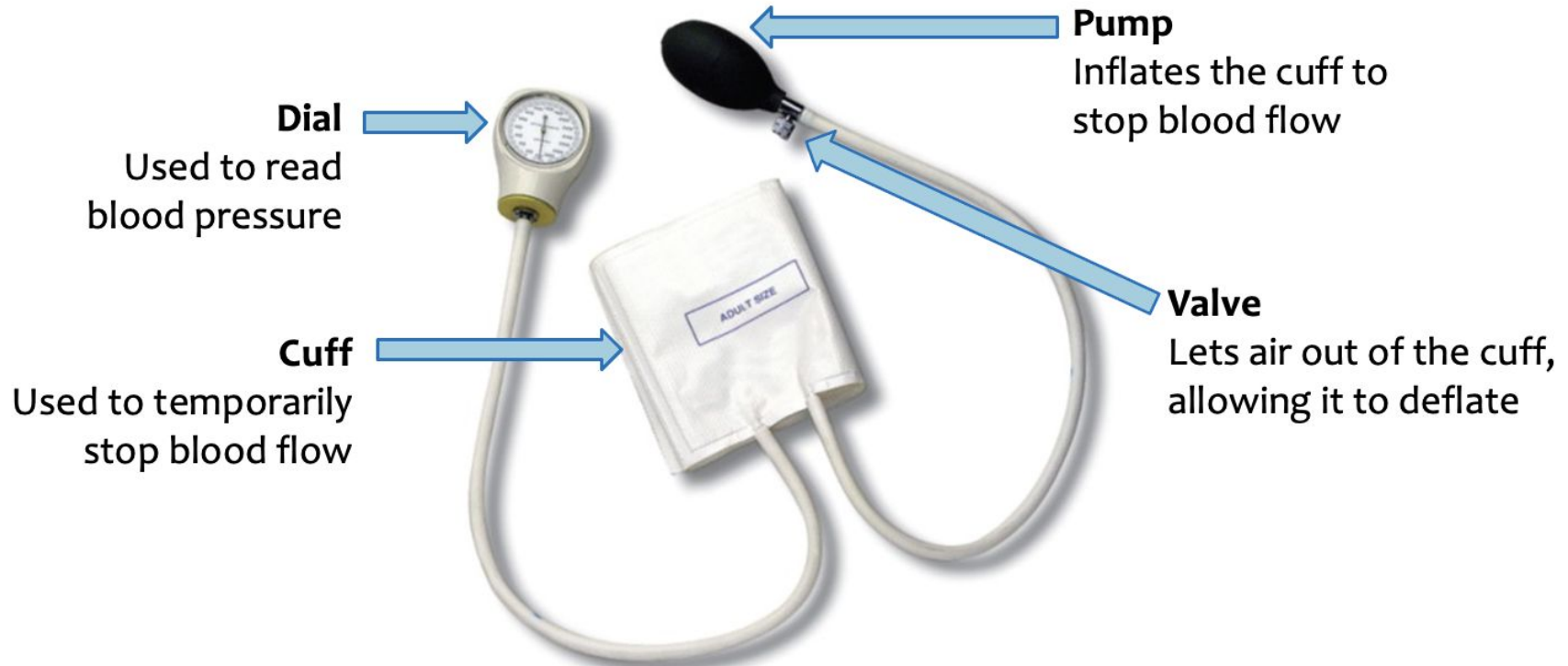
# What is Blood Pressure?

- ▶ The pressure that the blood exerts on the walls of the blood vessels
- ▶ Caused by heart pumping blood through the circulatory system





# Measuring Blood Pressure: The Sphygmomanometer



# Measuring Blood Pressure: The Sphygmomanometer

1. Sit comfortably with arm supported at heart level
2. Snugly wrap the sphygmomanometer cuff around the upper arm, one inch above the elbow
3. Place the stethoscope just above the crease of the elbow
4. Pump the cuff to around 180-200 mmHg
5. While listening with the stethoscope, slowly open the valve to let the pressure fall
  - a. When you first hear the beat of the blood flow, that is the systolic pressure
  - b. When you last hear the beat of the blood flow, that is the diastolic pressure

## What are Systolic and Diastolic Blood Pressures?



### Systolic Blood Pressure

- Pressure exerted when blood is ejected into arteries
- Normal systolic blood pressure is 120 mmHg or below

### Diastolic Blood Pressure

- Pressure blood exerts within arteries between heartbeats
- Normal diastolic blood pressure is 80 mmHg or below

# 5. GROUP STATIONS

## Form groups and let's try ourselves!



**Patient  
Assessment**



**Temperature**



**Pulse and  
Respiration**



**Blood Pressure**

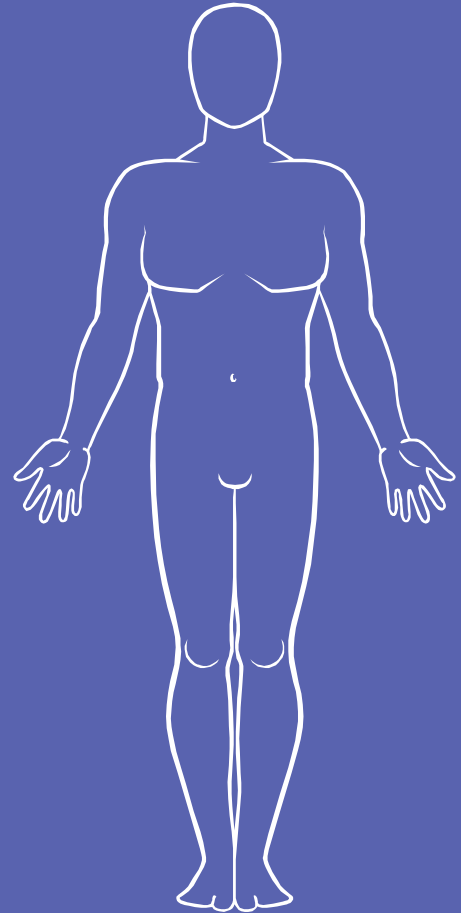
# 6. CONCLUSION

# YOU TRY!

## Patient Vital Signs

- Temperature: 100°F
- Pulse: 92 bpm
- Respiration Rate: 22 bpm
- Blood Pressure: 98/68 mm Hg

*What is abnormal about this patient's symptoms? What do you think these symptoms indicate?*

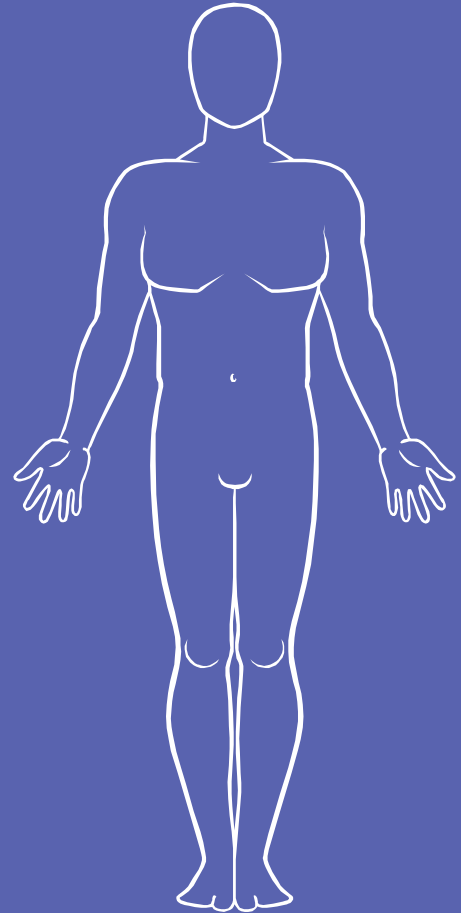


# YOU TRY!

## Patient Vital Signs

- Temperature: 100°F → **HIGH**
- Pulse: 92 bpm → **HIGH**
- Respiration Rate: 22 bpm → **HIGH**
- Blood Pressure: 98/68 mm Hg → **LOW**

*The patient has a fever, an elevated pulse, a high respiration rate, and low blood pressure. One potential reason for this is dehydration—notify a provider ASAP, and prepare for fluid rehydration!*





*Did you find anything interesting about your vital signs or your group members' vital signs?*





# THANK YOU!

## Any questions?

Contact us!

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- ▶ Instagram: @theprojectmed
- ▶ Website: [www.theprojectmed.org](http://www.theprojectmed.org)