

NADI Training

Spring, 2020

NADI Goals

- 1) Raise Health Awareness
- 2) Perform Comprehensive Examinations
- 3) Train Members to Take and Analyze Patient Vitals
 - a) Blood Pressure
 - b) Pulse (HR)
 - c) Body Mass Index (BMI)
 - d) Fat Percentage
 - e) Blood Sugar Level



DIABETES

3 Types

1) Gestational - Temporary condition resulting from pregnancy

	Type 1	Type 2
Onset	Sudden	Gradual
Age	Any (mostly young)	Adults (mostly)
Body Type	Mostly normal or thin	Mostly overweight or obese
Endogenous Insulin	Low/absent	Normal, decreased, or increased
Prevalence	5-10% of diabetics	90-95% of diabetics

https://www.diffen.com/difference/Type_1_Diabetes_vs_Type_2_Diabetes

DIAGNOSTIC CRITERIA

- Blood Sugar: Amount of glucose readily available in your blood
- To test for blood sugar level, we use the **random blood glucose test**

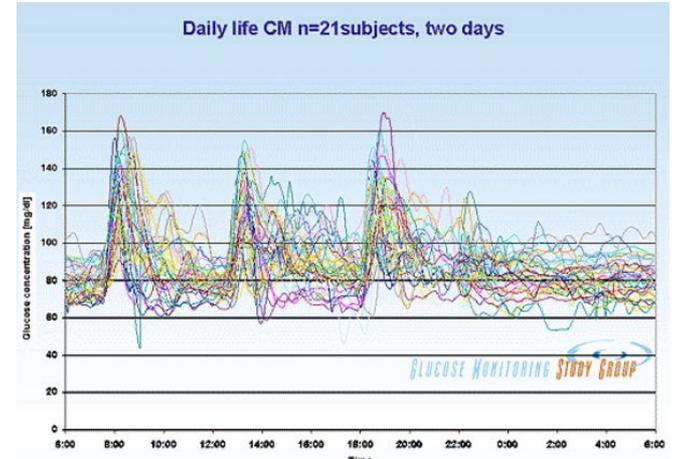
	Fasting (8 hrs w/out eating)	After-Eating
Normal	70-100 mg/dL	70-140 mg/dL
Pre-Diabetic	101-125 mg/dL	141-200 mg/dL
Diabetic	125 mg/dL and above	200 mg/dL and above

SUGAR and INSULIN FLUCTUATIONS

- Blood glucose is not a constant number
- Main factors that affect sugar level:
 - **EXERCISE**
 - Physical exertion requires the uptake of blood glucose, causing a decrease
 - **EATING**
 - After digestion, a temporary spike in sugar levels is seen

Video Demonstration:

<https://www.youtube.com/watch?v=j4vf3Xn-6Ag>



As seen, blood sugar can spike after eating, likely before each peak. Blood sugar peaks anywhere from 20 mins to 2 hrs after a meal, depending on what was consumed

TREATMENT - Recommendations

- Get more physical activity
- Get plenty of fiber
- Go to Whole Grains
- Skip Fad Diets & Make Healthier Choices

Medications

- Type 1 and Type 2 - <https://www.healthline.com/health/diabetes/medications-list#takeaway>
- Common Medications: <https://www.webmd.com/diabetes/diabetes-medications>

BODY MASS INDEX (BMI)

- BMI - ratio of height to weight
- Does NOT apply to bodybuilders or individuals with large muscle mass because their weight is generally healthier

BMI Formula

thecalculatorsite.com



METRIC
BMI = weight (kg) / [height (m)]²

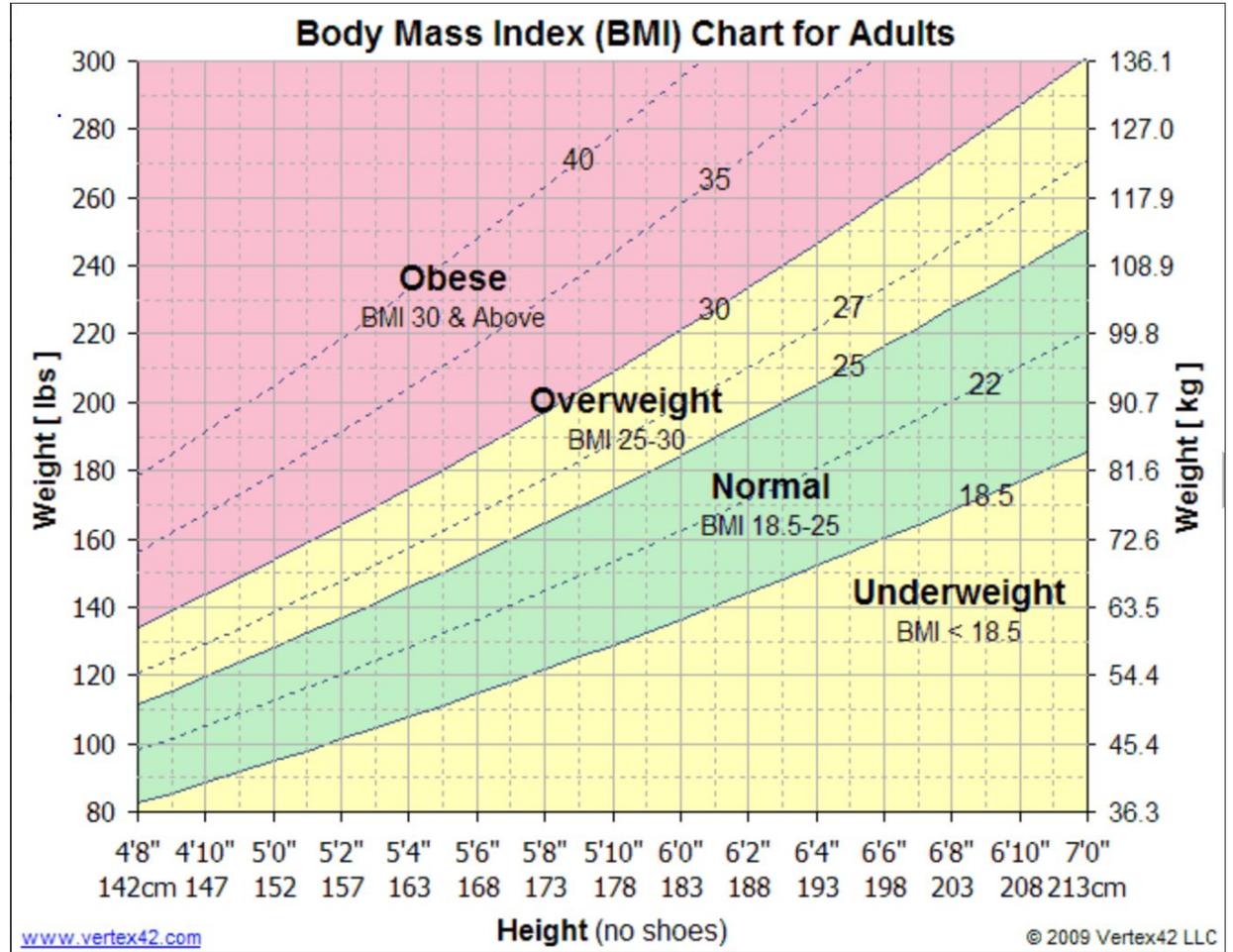
IMPERIAL
BMI = 703 x weight (lbs) / [height (in)]²

NOTE: More effective to measure weight and height than to input based off verbal patient report

BMI CHART

Helpful for giving patients a weight goal to enter a lower or higher range

(Ex. Obese to overweight OR underweight to normal)



PULSE - HEART RATE (bpm)

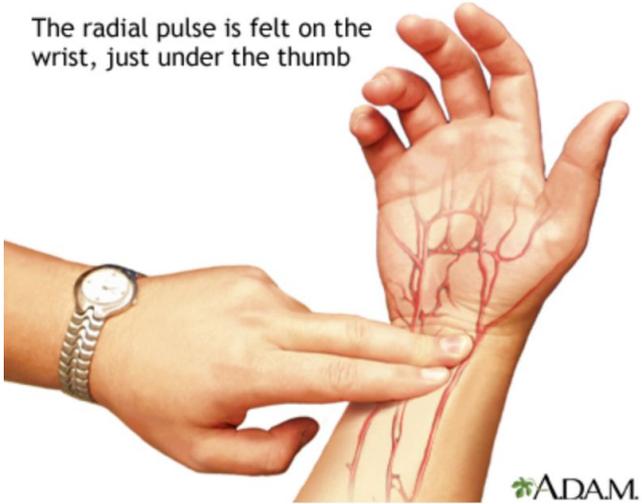
- Pulse is measured radially
- Measure for 30 seconds and multiply by 2
- OR measure for 60 seconds
- ALWAYS report an even number
- Assessed by palpation (2 fingers) or pulse oximeter device

AGE	RANGE (bpm)
Infant (1 month - 1 year)	100-120
Children	70-110 (depends on age)
Average Adult	60-100
Extreme Athlete	50 or below
Elderly (65+)	60-100

Palpation

Radial pulse

The radial pulse is felt on the wrist, just under the thumb



Pulse Oximeter (often reports SpO2 as well)



HYPERTENSION - “The Silent Killer”

- Hypertension: abnormally high blood pressure
- Systolic (1st number): Pressure in arteries while Left Ventricle is contracted
- Diastolic (2nd number): Pressure in arteries while Left Ventricle is relaxed

Causes of high BP include:

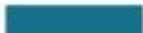
- High sodium intake
- Stress, anxiety, depression
- High cholesterol (LDL - low-density lipoprotein)
- Excessive alcohol consumption
- Tobacco consumption (smoking, hookah)
- Not enough physical activity

Ranges from American Heart Assoc. (AHA)

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

American Diagnostic Corporation (ADC)

Factors Affecting Blood Pressure Readings

Variance ↓ (mmHg)	Cause of Variance	Variance ↑ (mmHg)
	Cuff is too small ^{2, 4, 6, 7, 8, 10, 12, 14, 16, 18, 19}	 10-40
10-40 	Cuff over clothing ^{10, 16, 18}	 10-40
	Back/feet unsupported ^{3, 18}	 5-15
	Legs crossed ^{1, 5, 9, 16, 17, 18}	 5-8
	Not resting 3-5 minutes ^{2, 10, 16, 18, 19, 20}	 10-20
	Patient talking ^{2, 10, 11, 16, 17, 18}	 10-15
	Labored breathing ^{16, 18}	 5-8
	Full bladder ^{13, 16, 18}	 10-15
	Pain ¹⁶	 10-30
	Arm below heart level ^{2, 10, 13, 16, 17, 18}	 1.8/inch
1.8/inch 	Arm above heart level ^{10, 13, 16, 17, 18}	

More Factors that Affect BP

1) Left arm vs. Right Arm

- a) Variations can indicate a blocked artery
- b) Always record the HIGHER blood pressure

2) Body Position

- a) Sitting → Diastolic can be higher than lying supine
- b) Supine → Systolic can be higher than when sitting
- c) Standing → BP lower than when lying supine (gravity causes blood pooling at feet)

3) Exercise

- a) Exertion causes BP to rise

4) Temperature

- a) Low temp → Blood vessels constrict, increasing BP
- b) High temp → Blood vessels dilate, decreasing BP

TREATMENT - Recommendations

- As students, we **cannot** diagnose hypertension or diabetes
- Key Items to Tell Patients
 - Potassium-rich, sodium-low foods are best (fruits, vegetables)
 - Reduce sodium intake to < 1500 mg/day
 - Less breads, frozen foods, processed foods
 - Portion size is the hallmark of a proper diet

Summary:

- Maintain a healthy weight
- Eat a balanced diet
- Cut back on salt
- Exercise regularly
- Reduce Stress

What to do if you encounter a high BP?

- If abnormally high or within hypertensive crisis range:
 - Ask patient if they are on a medication
 - Ask if they took their medication today
 - If they are, ask them to see their doctor for another test and possibly an updated prescription (change in dose or medication)
- If patient displays symptoms of profusely sweating, dizziness, or trouble urinating with a high BP
 - Should see a doctor IMMEDIATELY!

RUNDOWN ON BP MEDS

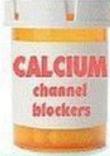
Rundown on Medications:

<https://www.healthline.com/health/high-blood-pressure-hypertension-medication#betablockers>

<https://www.verywellhealth.com/hypertension-drugs-1745989>

Most common: Diuretics, Beta-Blockers, Calcium Channel Blockers, Angiotensin Converting Enzyme Inhibitors, Angiotensin II Receptor Blockers

***Be able to recognize the common meds

Common Antihypertensive Drugs		
		
-PRIL	-LOL	-IPINE
enalapril lisinopril captopril	propranolol atenolol metoprolol timolol esmolol	nifedipine nicardipine amlodipine verapamil diltiazem
Common Side Effects		
dizziness headache drowsiness low BP rash cough	mask hypoglycemia SOB fatigue dizziness fatigue headache constipation	lightheadedness low BP low HR GERD drowsiness constipation
Visit NRSNG.com for FREE NCLEX® Prep Courses		

BEDSIDE MANNERISM

Be courteous and respectful

- Always ask the patient if they are comfortable and for consent before taking measurements → especially with blood sugar
- Be Human - ask how their day is and converse
 - Make their experience pleasant, and they will likely come again
- Keep patient information private
- Ask for consent for data recording (no personal information, just vitals)
- REMEMBER -- we are not professionals, we are only here to assess and recommend

MOCK SCREENING

(Take Notes)

MOCK SCREENING CHECKLIST

- Would you like to have your blood pressure checked?
- Have you been diagnosed?
 - Medication? Today?
 - If not, when/why?
- Do you know what your normal blood pressure is?
- Any other health conditions or medications?
- Are you comfortable?

For blood glucose:

- Do you have diabetes?
- When was the last time you ate?

MOCK SCREENING CHECKLIST

Results: Normal to Elevated

- Explain that results are borderline
 - Doesn't hurt to take preventative measures

Results: HTN Stage I/II

- Diet, exercise habits?
- Recent lifestyle changes?
 - Stress and mental health

Results: Hypertensive Crisis

- Symptoms?
 - Nausea, dizziness, etc.
- Medical treatment ASAP
 - Explain potential consequences

TROUBLESHOOTING CHECKLIST

Cuff not inflating

- Is the artery mark lined up properly?
- Is the dial on the pump turned all the way to the right?

Can't hear the BP

- Can you hear sound by tapping on the bell?
- Are you wearing the stethoscope properly with tips facing forward?
- Did you try turning the dial 180°?
- Is the patient wearing a thick sleeve?

TAKING BP

Keep in Mind:

- Patient arm should be resting on table
- Cuff should be proper tightness (2 fingers snug fit)
- Cuff positioned 2-3 cm above elbow crease
- Stethoscope pointing into your ear
- If you are not sure, switch arms, ask someone to confirm, or simply try again
 - DO NOT REPORT A FALSE READING

<https://www.youtube.com/watch?v=bHXvhOQ0hYc> (Normal)

Palpated BP: If too noisy, use pulse to find systolic pressure (no stethoscope needed)

- <https://www.youtube.com/watch?v=E4RELD0eGYE>

THANK YOU Questions?

To prepare for assessments, use the study guide, powerpoint, and practice your hands-on