THE CARDIOLOGY PARADIGM: FROM TREATMENT TO PREVENTION

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DISCLOSURES

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1.

NONE TO DISCLOSE



Become Familiar with Risks Associated with the Development of ASCVD



Accurately Calculate Risk of Progression to ASCVD



OBJECTIVES

Be Able to Match the Intensity of Preventive Efforts with an Individual's Absolute Risk of Future CVD Events



Be Familiar with Potential Benefits and Adverse Risk from Pharmacological Therapy



Understand when it is Appropriate to Introduce Pharmacological Therapy PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE PRE-TEST QUESTION # 1

- Traditional Cardiovascular Risk Factors Should Routinely Be Assessed and a 10-Year Risk of Cardiovascular Events Should Be Calculated in which Age Population?
 - A.Age 20-39
 - B.Age 40-75

PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE PRE-TEST QUESTION # 2

- Which of the Following are Validated Risk Prediction Tools?
 - A. Reynolds Risk Score
 - B. SCORE (Systematic Coronary Risk Evaluation)
 - C. Framingham CVD Risk Score
 - D. QRISK/JSBS3
 - E. MESA Score
 - F.All of the Above

TRADITIONAL METHODS

- For Decades, Cardiologist treated critically ill patients and pioneered procedural and medical therapies to heal the severely compromised heart
- Medications to Prevent Disease
 Progression
- New Coronary Stents
- Robust Mechanical Circulatory Support Devices

PROGRESSION OF CORONARY STENTS

US FDA approval	Stent	Manufacturer	Generation	Type of stent: Platform	Drug eluted
2000	Bx Velocity	Cordis, Bridgewater, NJ	First	BMS: 316L Stainless steel	N/A
2002	Liberté → VeriFLEX*	Boston Scientific, Natick, MA	First	BMS: 316L Stainless steel	N/A
2003	Vision	Guidant/Abbott, Indianapolis, IN	Second	BMS: Cobalt chromium	N/A
2003	Driver/Integrity	Medtronic, Minneapolis, MN	Second	BMS: Cobalt chromium	N/A
Trials underway	Omega	Boston Scientific, Natick, MA	Third	BMS: Platinum chromium	N/A
2003 [†]	Cypher	Cordis, Bridgewater, NJ	First	DES: 316L Stainless steel	Sirolimus
2004	Taxus Express	Boston Scientific, Natick, MA	First	DES: 316L Stainless steel	Paclitaxel
2008	Taxus Liberté	Boston Scientific, Natick, MA	First	DES: 316L Stainless steel	Paclitaxel
2008	Endeavor	Medtronic, Minneapolis, MN	Second	DES: Cobalt chromium	Zotarolimus
2008	Xience V/Prime	Guidant/Abbott, Indianapolis, IN	Second	DES: Cobalt chromium	Everolimus
2008	Promus	Boston Scientific, Natick, MA	Second	DES: Cobalt chromium	Everolimus
2011	Promus Element	Boston Scientific, Natick, MA	Third	DES: Platinum chromium	Everolimus
2012	Taxus Element	Boston Scientific, Natick, MA	Third	DES: Platinum chromium	Paclitaxel
2013	Resolute Integrity	Medtronic, Minneapolis, MN	Third	DES: Cobalt chromium	Zotarolimus

MECHANICAL CIRCULATORY DEVICES

IABP



Intelligently Position, Manage & Wean

Hemodynamic Sensors

- Pump repositioning in ICU without imaging*
- Confident positioning allows for sustained higher flows up to 4.3 L/min
- New hemodynamic sensors provide actionable guidance and improved troubleshooting

WHY THE PUSH TOWARD PRIMARY PREVENTION?

Cardiovascular Disease remains the leading cause of morbidity and mortality globally

In the United States, it is the leading cause of death for people of most racial/ethnic groups, with an estimated cost of > 200 billion annually in healthcare services, medications, and lost productivity

ANNUAL CARDIOVASCULAR DISEASE COSTS

THE FRAMINGHAM STUDY

Set the framework for Identification of Risk Factors for Cardiovascular Disease

Estimates the 10-year Risk for the Development of CHD

RESEARCH MILESTONES (1)

- 1960 Cigarette smoking found to increase the risk of heart disease
- 1961 Cholesterol level, blood pressure, and electrocardiogram abnormalities found to increase the risk of heart disease
- **1967** Physical activity found to reduce the risk of heart disease and obesity to increase the risk of heart disease
- 1970 High blood pressure found to increase the risk of stroke
- 1970 Atrial fibrillation increases stroke risk 5-fold
- 1976 Menopause found to increase the risk of heart disease
- 1978 Psychosocial factors found to affect heart disease

RESEARCH MILESTONES (2)

- 1988 High levels of HDL cholesterol found to reduce risk of death
- **1994** Enlarged left ventricle (one of two lower chambers of the heart) shown to increase the risk of stroke
- 1996 Progression from hypertension to heart failure described
- 1998 Framingham Heart Study researchers identify that atrial fibrillation is associated with an increased risk of all-cause mortality.
- **1998** Development of simple coronary disease prediction algorithm involving risk factor categories to allow physicians to predict multivariate coronary heart disease risk in patients without overt CHD factor categories to allow physicians to predict multivariate coronary heart disease risk in patients without overt CHD

RESEARCH MILESTONES (3)

- **1999** Lifetime risk at age 40 years of developing coronary heart disease is one in two for men and one in three for women
- 2001 High-normal blood pressure is associated with an increased risk of cardiovascular disease, emphasizing the need to determine whether lowering high-normal blood pressure can reduce the risk of cardiovascular disease.
- 2002 Lifetime risk of developing high blood pressure in middle-aged adults is 9 in 10.
- 2002 Obesity is a risk factor for heart failure.
- 2004 Serum aldosterone levels predict future risk of hypertension in non-hypertensive individuals.
- 2005 Lifetime risk of becoming overweight exceeds 70 percent, that for obesity approximates 1 in 2.
- 2006 The National Heart, Lung and Blood Institute (NHLBI) of the National Institutes of Health announces a new genome-wide association study at the Framingham Heart Study in collaboration with Boston University School of Medicine to be known as the SHARe project (SNP Health Association Resource).

RESEARCH MILESTONES (4)

- 2007 Based on evaluation of a densely interconnected social network of 12,067 people assessed as part of the Framingham Heart Study, network phenomena appear to be relevant to the biologic and behavioral trait of obesity, and obesity appears to spread through social ties.
- 2008 Based on analysis of a social network of 12,067 people participating in the Framingham Heart Study (FHS), researchers discover that social networks exert key influences on decision to quit smoking.
- **2008** Discovery by Framingham Heart Study and publication of four risk factors that raise probability of developing precursor of heart failure; new 30-year risk estimates developed for serious cardiac events.

RESEARCH MILESTONES (5)

- **2009** Framingham Heart Study cited by the American Heart Association among the top 10 cardiovascular research achievements of 2009, "Genome-wide Association Study of Blood Pressure and Hypertension: Genome-wide association study identifies eight loci associated with blood pressure".
- 2009 A new genetic variant associated with increased susceptibility for atrial fibrillation, a prominent risk factor for stroke and heart failure, is reported in two studies based on data from the Framingham Heart Study.
- 2009 Framingham Heart Study researchers find parental dementia may lead to poor memory in middle-aged adults.
- 2009 Framingham Heart Study researchers find high leptin levels may protect against Alzheimer's disease and dementia

RESEARCH MILESTONES (6)

- 2010 Sleep apnea tied to increased risk of stroke
- 2010 Framingham Heart Study researchers identify additional genes that may play a role in Alzheimer's disease
- 2010 Framingham Heart Study finds fat around the abdomen associated with smaller, older brains in middle-aged adults
- **2010** Framingham Heart Study finds genes link puberty timing and body fat in women

RESEARCH MILESTONES (7)

- **2010** Having first-degree relative with atrial fibrillation associated with increased risk for this disorder
- 2009-2010 Framingham Heart Study researchers contribute to discovering hundreds of new genes underlying major heart disease risk factors—body mass index, blood cholesterol, cigarette smoking, blood pressure and glucose/diabetes
- 2010 First definitive evidence that occurrence of stroke by age 65 years in a parent increased risk of stroke in offspring by 3-fold

FRAMINGHAM POINT SCORE

Age	Poi	nts	HDL (mg/dL)		Points			Point	10-Year
20-34 -7		7	≥60		-1			Total	Rick 06
35-39 -3		3	50-59		0				
40-44 0 45-49 3			40-49 <40		3		<9	<1	
							9	1	
50-54	9		Contalle			-		10	1
53-39	6		Systolic	SP.	If Untreat	Ind	If Treated	11	1
65.60	9	2 –	<120		0		0		
70-74			120-12	10	1		3	12	1
75-79 16		6	130-139		2		4	13	2
			140-159		0		5	14	2
<u>≥</u> 160				-		6	15	3	
				Points	-		=	16	4
Total		Age 20-10	Age	Age	Age	Age		(17)	5
<160		0	0	0	0	0	<u> </u>	18	6
160-199		4	3	2	1	1		19	8
200-239		8	6	4		1		20	11
240-279		11	8	5	3	2		2.0	
≥280		13	10	7	4	2		21	14
	Points						22	17	
					Ane	An		22	
		Age	Age	Age -	0.00	-		23	22
		Age 20-39	40-49	50-59	60-69	70-7	9	23	27

The Multi-Ethnic Study of Atherosclerosis

MESA

Enrolled over 6,800 asymptomatic men and women ages 45-84

Multiple Ethnicities 38% Caucasian28% Black22% HispanicI2% Asian

Used to predict Risk of Progression to Clinically Overt Cardiovascular

MESA

Can be Combined with Calcium Score to Further Categorize 10-Year Risk of a Cardiovascular Event

MESA Scoring Tool Available Online: Ebmcalc.com

GUIDELINE RECOMMENDATIONS FOR ASSESSMENT OF CARDIOVASCULAR RISK

- Age
 - 20-39 years old
 - 40-75 years old

- Risk
 - Borderline
 - Intermediate

AGE

20-39 YEARS OLD

 Assess Traditional Cardiovascular Risk Factors Every 4-6 years

40-75 YEARS OLD

- Routinely Assess Cardiovascular Risk Factors
- Calculate 10-Year Risk of Development
 of Cardiovascular Disease

BORDERLINE RISK

Defined As 5-7.5% Risk of Developing Cardiovascular Disease in 10 Years

Reasonable to use additional Riskenhancing factors to guide decisions about preventive measures

Defined as 7.5-20% Risk of Developing Cardiovascular Disease in 10 Years

INTERMEDIATE RISK

Institute Preventive Interventions

Consider Assessment of Calcium Score(Refines Risk Assessment for Preventive Measures)

FAMILY HISTORY

- First Degree Male Relative
 - Less Than 55 y/o

FAMILY HISTORY

- First Degree Female Relative
 - Less Than 65 y/o

PRIMARY HYPERCHOLESTEROLEMIA

- LDL
 - 160-189 mg/dL

PRIMARY HYPERCHOLESTEROLEMIA

- Total Cholesterol
 - 190-219 mg/dL

METABOLIC SYNDROME

Three or More Makes the Diagnosis

METABOLIC SYNDROME

- Blood Pressure > 130/85 mmHg
- Fasting Triglycerides > 150 mg/dL
- Fasting Glucose > 100mg/dL
- Waist Circumference > 40 inches in men and >35 inches in women
- Low HDL Syndrome
 - Less than 40 mg/dL in men
 - Less than 50 mg/dL in women

CHRONIC KIDNEY DISEASE

 eGFR 15-59mL/min/1.73m with or without albuminuria

CHRONIC INFLAMMATORY CONDITIONS

- Psoriasis
- Lupus
- HIV/AIDS
- RA

HISTORY OF PREMATURE MENOPAUSE

• Before Age 40

PREGNANCY ASSOCIATED CONDITIONS

• Pre-Eclampsia

- High Risk Race/Ethnicity
 - South Asian Ancestry
 - Black Ancestry
 - Hispanic Ancestry
CARDIOVASCULAR RISK FACTORS

LIPID BIOMARKERS

- Primary Hypertriglyceridemia
 - > 175 mg/dL

LIPID BIOMARKERS

- Elevated High Sensitivity C-reactive Protein (> 2.0 mg/L)
- Elevated Lp(a) (>50-125 nmol/L)
- Elevated apoB (> 130mg/dL) Measure if triglycerides are > than 200 mg/dL
- ABI (< 0.9)



Nutrition/Diet

LIFESTYLE FACTORS AFFECTING CARDIOVASCULAR RISK



Exercise/Physical Activity

Overweight/Obesity

NUTRITION/DIET

- Fruits/Vegetables/Healthy
 Nuts/Legumes/Fish
- Low Cholesterol/Low Salt
- Replace Saturated Fat with
 Monounsaturated and Polyunsaturated
 Fats
- Limit Sugar/Refined
 Carbohydrates/Processed Meats



EXERCISE/PHYSICAL ACTIVITY

MODERATE INTENSITY VIGOROUS INTENSITY

MODERATE INTENSITY EXERCISE

Achieve 3.0-5.9 METS

150 Minutes per Week

Examples: Brisk Walking, Biking (5-9mph), Ball Room Dancing, Recreational Swimming, Active YOGA





VIGOROUS INTENSITY

- 75 Minutes Per Week
- >6 METS
- Examples: Jogging/Running, Singles
 Tennis, Biking > 10mph, Swimming
 Laps



RISK FACTORS ASSOCIATED WITH OBESITY



RECOMMENDATIONS FOR ADULTS CLASSIFIED AS OVERWEIGHT/OBESE

OVERWEIGHT DEFINITION

- BMI
 - 25-29.9 kg/m2

OBESE DEFINITION

- BMI
 - >/= 30 kg/m2

RECOMMENDATIONS FOR ADULTS CLASSIFIED AS OVERWEIGHT/OBESE

COMPREHENSIVE LIFESTYLE PROGRAMS

- Minimum of 6 months
- Low Calorie Diet: 800-1500 kcal/day
- Minimum of 150 minutes Per Week of Moderate Intensity Aerobic Exercise
- Face-to-Face Contact to Monitor Exercise/Caloric Intake

COMPREHENSIVE LIFESTYLE PROGRAMS

- Measure BMI
- Measure Waist Circumference
- Goal 5-10% Loss of Initial Weight in the first 6 months

RECOMMENDATIONS FOR ADULTS CLASSIFIED AS OVERWEIGHT/OBESE

- Begin with Lifestyle Modification
- In select Populations:
 - Weight Loss Medications
 - Bariatric Surgery



WHAT ABOUT DIABETES?

- ACC Defines Diabetes Type II
 - Metabolic Disorder Characterized by Insulin Resistance leading to Hyperglycemia
 - HbAIC >6.5%

GUIDELINE RECOMMENDATIONS AS IT RELATES TO TYPE II DIABETES

HEART HEALTHY DIET

- Mediterranean Diet
- DASH
- Vegetarian/Vegan Diet

QUALITY CARBOHYDRATES

- Fiber Rich Whole Grains
- Avoid Refined Carbohydrates
- Limit Consumption of Red Meat
- Weight Loss is Essential

GUIDELINE RECOMMENDATIONS AS IT RELATES TO TYPE II DIABETES



Multiple Meta-Analysis show a significant reduction in HBAIC (7.6 vs 8.3) with initiation of an exercise regimen



Prospective Cohort Studies have provided supportive data that a combination of aerobic and resistance training further improves glycemic control and facilitates weight loss more than either type alone

IS THERE ANY BENEFIT TO METFORMIN?

- UKPDS (United Kingdom Prospective Diabetes Study)
- Metformin MOA
 - Decreases hepatic glucose production and increases peripheral insulin sensitivity
- Metformin Compared with conventional therapy resulted in a 32% reduction in microvascular/macrovascular diabetes related outcomes
- 39% reduction in myocardial infarct
- 36% reduction in all-cause mortality

IS THERE ANY BENEFIT TO METFORMIN?

- 2016 Systematic Review and Meta-Analysis of Glucose Lowering Therapies for Diabetes Type II
- Supported the Use of Metformin as First-Line Treatment of DM-2 based upon effects on HbAIC, weight loss, low cost, and improved Cardiovascular outcomes(as compared to sulfonylureas)

GLUCOSE LOWERING MEDICATIONS THAT REDUCE CARDIOVASCULAR EVENTS

SGLT-2 INHIBITORS

- Act in the Proximal Tubule to Increase Urinary Excretion of Glucose and Sodium
- RCTS have shown a significant reduction in ASCVD and Heart Failure

GLP-IR AGONISTS

- Increase Insulin and Glucagon
 Production in the Liver
- Increase Glucose Uptake in Muscle and Adipose Tissue
- Decrease Hepatic Glucose Production
- Reduce Risk of ASCVD Events

TREATMENT OF DIABETES TYPE II FOR PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE



 In adults at intermediate risk (7.5-20% 10-year CVD Risk), a moderate-intensity statin is recommended



In intermediate risk (7.5-20% 10-Year CVD Risk), LDL-C should be reduced by 30%

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In high risk patients (>20% 10-Year CVD Risk), LDL-C should be reduced by 50%

 In adults aged 40-75 y/o with diabetes, regardless of estimated 10-Year CVD risk, moderate intensity statin is indicated

 In patients 20-75 y/o with an LDL-C of 190 mg/dL or higher, maximally tolerated statin therapy is recommended

 In adult diabetics with multiple CVD Risk factors, it is reasonable to prescribe high intensity statin therapy with a goal to reduce LDL-C by 50%

 In intermediate risk patients (7.5-20%) with riskenhancing factors, it is recommended to initiate or intensify statin therapy

GUIDELINE RECOMMENDATIONS FOR ADULTS WITH HIGH CHOLESTEROL AND CALCIUM SCORING

- If CAC Score is Zero, It is reasonable to withhold statin therapy and re-assess in 5-10 years(as long as higher risk conditions are absent)
- IF CAC Score is 1-99, it is reasonable to initiate statin for patients >/= 55 y/o

 If CAC Score is>100, it is reasonable to initiate statin regardless of age

JUPITER TRIAL

- Enrolled Men >/= 50 y/o and Women >/= 60 years old
- High Sensitivity C-reactive Protein of >/= 2.0 mg/L and LDL-C < 130mg/dL
- Proved that it is reasonable to use high-intensity statin treatment to lower LDL-C >/= 50%(Highest risk groups)
- Randomly assigned to Rosuvastatin of 20mg/day
 - Achieved a Mean LDL-C reduction of 50%
 - Significant Reduction in CVD Risk Reduction at 1.9 years



2019 ACC/AHA GUIDELINE ON THE PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE



RISK ENHANCERS IN DIABETIC PATIENTS

- ABI <0.9
- Retinopathy
- Neuropathy

- Albuminuria (>30 mcg albumin/mg creatinine)
- eGFR <60 mL/min/1.73m2
- Long Duration
 - > 10 years for DM-2
 - > 20 years for DM-I

CORONARY ARTERY CALCIUM MEASUREMENT CANDIDATES

- Patients reluctant to initiate statin therapy who wish to further understand their risk
- Patients concerned about the need to reinstitute statin therapy after discontinuation for statin associated symptoms

- Older patients with low burden of risk who question whether they would benefit from statin therapy
- Middle Aged Adults with a 10 Year Risk of 5-7.5%

NON-PHARMACOLOGICAL INTERVENTIONS

- Weight Loss
- Heart Healthy Diet
- Sodium Reduction

NON-PHARMACOLOGICAL INTERVENTIONS

- Dietary Potassium Supplementation
- Increased Physical Activity
- Limited Alcohol Intake

 In adults with an estimated 10-year CVD Risk of 10% or higher, and an average SBP of 130 mmHg or an average DBP of 80mmHg or higher, use of BP lowering medications is recommended

 In adults with confirmed Hypertension and a 10-Year CVD Event Risk of 10% or higher, a Goal of BP < than 130/80 mmHg is recommended

IN ADULTS WITH HYPERTENSIVE-CKD, BP < 130/80 MMHG IS RECOMMENDED



In adults with Hypertension and Diabetes, anti-hypertensive medications should be initiated at a BP of >/= 130/80mmHg



Treatment Goal is BP< 130/80 mmHg
GUIDELINE RECOMMENDATIONS IN ADULTS WITH HYPERTENSION

 In Adults with an Estimated 10-Year Risk of CVD Event and BP>/= 140/90 mmHg, Initialization and Use of BP lowering medications are recommended



Systolic Pressure Intervention Trial

SPRINT TRIAL



RCT of over 9,000 patients > 50 y/o to either one of two arms: SBP<120mmHg or SBP <140mmHg



In patients at high risk of CVD, without history of Diabetes or CVA, intensive BP(< 120mmHg) improved CV outcomes and overall survival.

BP THRESHOLDS AND RECOMMENDATIONS FOR TREATMENT



WEIGHT LOSS

- Best Goal is Ideal Body Weight
- Aim for at Least I-kg reduction in body weight

WEIGHT LOSS

• Lowers SBP by 5mmHg

HEART HEALTHY DIET

• Diet Rich in fruits, vegetables, whole grains, and low saturated fats

HEART HEALTHY DIET

• Lowers SBP by IImmHg

REDUCED INTAKE OF SODIUM

- Optimal Goal of < 1,500mg/day
- Aim for at least reduction of 1,000mg

REDUCED INTAKE OF SODIUM

• Lowers SBP 5-6mmHg



ENHANCED INTAKE OF DIETARY POTASSIUM

• Aim for 3500-5000mg/day preferably by consumption of a diet rich in potassium

ENHANCED INTAKE OF DIETARY POTASSIUM

Lowers SBP by 4-5mmHg



PHYSICAL ACTIVITY

• 150 Minutes of Aerobic Activity/Weekly

PHYSICAL ACTIVITY

Lowers SBP 5-8 mmHg



MODERATE ALCOHOL INTAKE

- Men </= 2 Drinks Daily
- Women </= I Drink Daily

MODERATE ALCOHOL INTAKE

Lowers SBP 4mmHg

GUIDELINE TREATMENT OF TOBACCO USE

 All adults should be Assessed at Every Healthcare Visit for Tobacco Use and Their Tobacco Use Status Recorded as a Vital Sign to Facilitate Tobacco Cessation



GUIDELINE TREATMENT OF TOBACCO USE

TO ACHIEVE TOBACCO ABSTINENCE, ALL ADULTS WHO USE TOBACCO SHOULD BE FIRMLY ADVISED TO QUIT

GUIDELINE TREATMENT OF TOBACCO USE

In Adults who use Tobacco, a Combination of Behavioral Interventions and Pharmacotherapy is Recommended to Maximize Quit Rates

GUIDELINE TREATMENT OF TOBACCO USE

TOBACCO ABSTINENCE IS RECOMMENDED TO REDUCE CVD EVENT RATES



Is the leading Cause of Preventable Disease, Disability, and Death in the United States

TOBACCO USE



Smoking and Smokeless Tobacco Use Increases the Risk of ALL-Cause Mortality



Secondhand Smoke is a cause of ASCVD and Stroke and approximately 1/3rd of CHD Deaths

ENDS



Electronic Nicotine Delivery System (Ecigs)



Emit Aerosol Containing fine and ultra-fine particulates, nicotine, and toxic gases Increase risk of Cardiovascular and Pulmonary Disease

Increase Risk of Hypertension

Increase Risk of Arrhythmias RECOMMENDED BEHAVIORAL AND PHARMACOTHERAPY TOBACCO TREATMENT MODALITIES FOR PRESCRIBERS



NICOTINE REPLACEMENT THERAPY(PATCH)



Precautions: Local Irritation Possible, Avoid with Skin Disorders

Patch

21 mg for > 10 CPD 14mg for < 10CPD



NICOTINE REPLACEMENT THERAPY(GUM/LOZENGE)

NICOTINE REPLACEMENT THERAPY (NASAL SPRAY)



NICOTINE REPLACEMENT THERAPY(ORAL INHALER)

Precaution: Cough Possible, Avoid with Reactive Airways Disorder

10mg-Cartridge

- Puff for 20 minutes/cartridge Every I-2 h
- Maximum 6-16 Cartridges/d
- Taper over 3-6 months







Low dose Aspirin (75-100mg) might be considered for the Primary Prevention of ASCVD among select adults 40-70 y/o who are at higher ASCVD risk but not at increased risk of bleeding Prophylactic Aspirin in Primary Prevention Adults >/= 70 years of age is potentially harmful, and given the higher risk of bleeding in this age group is difficult to justify for routine use

ASPIRIN USE (PRIMARY PREVENTION)

ASPIRIN USE (SECONDARY PREVENTION)

 Aspirin is well established for secondary prevention of ASCVD and is Widely Recommended for this Indication PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE POST-TEST QUESTION # 1

Statin Therapy is first-line treatment for primary prevention of ASCVD in patients with LDL-C > 190mg/dL, those with diabetes who are 40-75 y/o, and those determined to be at sufficient ASCVD risk after a clinician-patient risk discussion

A.True

B. False

PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE POST-TEST QUESTION # 2

- For Adults with Diabetes Type II, lifestyle changes and adequate exercise are crucial. If medication is indicated, metformin is considered first-line therapy. Which additional therapies should be considered?
 - A. Sulfonylureas and GLP-1 Agonist
 - B. GLP-1 Agonist and SGLT-2 Inhibitors
 - C. Sulfonylureas, GLP-I Agonist, and SGLT-2 Inhibitors

CONCLUSIONS

 The growing need to consider value stems directly from the goal of achieving the best possible health outcomes with finite healthcare resources in the primary prevention of CVD

CONCLUSIONS

- The integrations of value assessments into our national guidelines involves inherent challenges:
 - Variability in costs across different healthcare settings
 - Variability in costs and benefits across different patient subgroups
 - Variability over time
 - Variability in who bears the burden of the healthcare cost vs healthcare outcome

THANK YOU