KIN 6056 Case Study: Miley Serious

Instructions:

Please review the Miley Serious *Case Study, and template.* The actual case study and supporting materials are in the appendices.

Please be sure to provide your

1) preparticipation assessment (Is Ms. Serious low-, moderate-, or high-risk?)

2) to include a list of all her risk factors (including the total number of risk factors - document those RFs which you ruled out (R/O)),

3) any concerns you might have, and

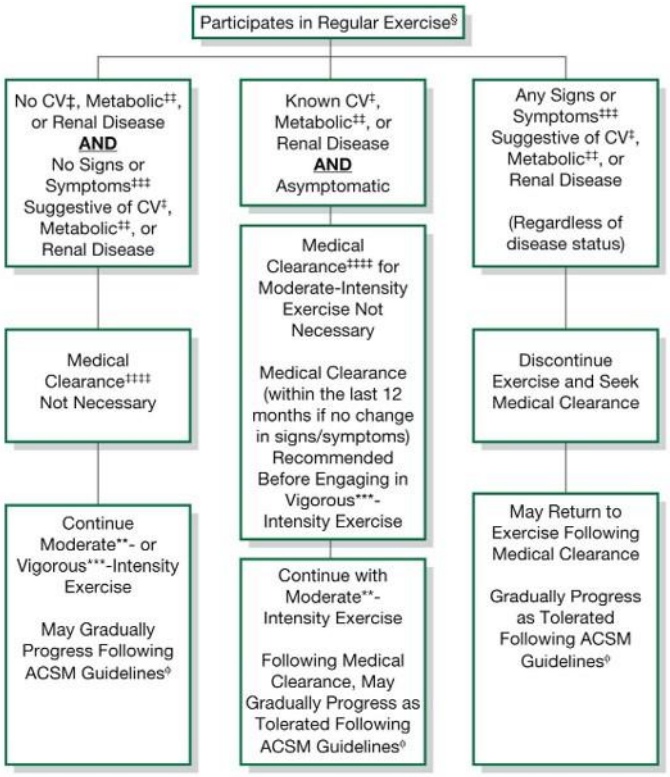
4) special considerations you identify. Please review the exhibits included

(below) from:

- the GETP 12,
- web (mortality/risk calculators) and,
- the screening process from the GETP 9 in addition to your text,
- the assigned readings, and
- KIN 6056 lectures to draft a complete pre-participation assessment.

For this week, you will only do the risk factor identification and preparticipation assessment. You do NOT have to do the fitness assessment or exercise prescription.

An incomplete list of exhibits from the GETP12 follows:



§Exercise Participation	Performing planned, structured physical activity at least 30 min at moderate intensity on at least 3 d · wk^{-1} for at least the last 3 mo
*Light-Intensity Exercise	30%–39% HRR or $\dot{V}O_2R$, 2–2.9 METs, RPE 9–11, an intensity that causes slight increases in HR and breathing
**Moderate-Intensity Exercise	40%–59% HRR or $\dot{V}O_2R$, 3–5.9 METs, RPE 12–13, an intensity that causes noticeable increases in HR and breathing
***Vigorous-Intensity Exercise	≥60% HRR or $\dot{V}O_2R$, ≥6 METs, RPE ≥14, an intensity that causes substantial increases in HR and breathing
‡Cardiovascular (CV) Disease	Cardiac, peripheral vascular, or cerebrovascular disease
‡‡Metabolic Disease	Type 1 and 2 diabetes mellitus
‡‡‡Signs and Symptoms	At rest or during activity. Includes pain, discomfort in the chest, neck, jaw, arms, or other areas that may result from ischemia; shortness of breath at rest or with mild exertion; dizziness or syncope; orthopnea or paroxysmal nocturnal dyspnea; ankle edema; palpitations or tachycardia; intermittent claudication; known heart murmur; unusual fatigue; or shortness of breath with usual activities.
‡‡‡‡Medical Clearance	Approval from a health care professional to engage in exercise
◊ACSM Guidelines	See the most current edition of *ACSM's Guidelines for Exercise Testing and Prescription*

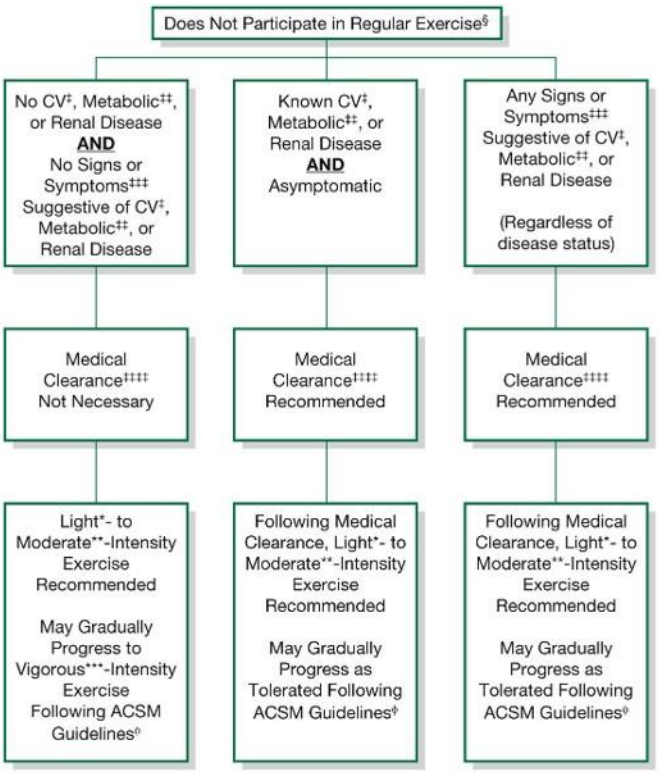


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TABLE 2.2 • Cardiovascular Disease (CVD) Risk Factors and Defining Criteria

Positive Risk Factors[a]	Defining Criteria
Age	Men ≥45 yr; women ≥55 yr (35)
Family history	Myocardial infarction, coronary revascularization, or sudden death before 55 yr in father or other male first-degree relative or before 65 yr in mother or other female first-degree relative (36)
Cigarette smoking	Current cigarette smoker or those who quit within the previous 6 mo or exposure to environmental tobacco smoke (36,37)
Physical inactivity	Not meeting the minimum threshold of 500–1,000 MET-min of moderate-to-vigorous physical activity or 75–150 min · wk^{-1} of moderate- to vigorous-intensity physical activity (21)
Body mass index/waist circumference	Body mass index ≥30 kg · m^{-2} or waist girth >102 cm (40 in) for men and >88 cm (38 in) for women (38)
Blood pressure	Systolic blood pressure ≥130 mm Hg and/or diastolic ≥80 mm Hg, based on an average of ≥2 readings obtained on ≥2 occasions, or on antihypertensive medication (29)
Lipids	Low-density lipoprotein cholesterol (LDL-C) ≥ 130 mg · dL^{-1} (3.37 mmol · L^{-1}) or high-density lipoprotein cholesterol (HDL-C) < 40 mg · dL^{-1} (1.04 mmol · L^{-1}) in men and <50 mg · dL^{-1} (1.30 mmol · L^{-1}) in women or non-HDL-C < 130 (3.37 mmol · L^{-1}) or on lipid-lowering medication. If total serum cholesterol is all that is available, use ≥200 mg · dL^{-1} (5.18 mmol · L^{-1}) (30)
Blood glucose	Fasting plasma glucose ≥100 mg · dL^{-1} (5.5 mmol · L^{-1}); or 2 h plasma glucose values in oral glucose tolerance test (OGTT) ≥140 mg · dL^{-1} (7.77 mmol · L^{-1}); or HbA1C ≥5.7% (39)
Negative Risk Factors	**Defining Criteria**
HDL-C[b]	≥60 mg · dL^{-1} (1.55 mmol · L^{-1}) (30)

[a]If the presence or absence of a CVD risk factor is not disclosed or is not available, that CVD risk factor should be counted as a risk factor.
[b]High HDL-C is considered a negative risk factor. For individuals having high HDL ≥ 60 mg · dL^{-1} (1.55 mmol · L^{-1}), one positive risk factor is subtracted from the sum of positive risk factors.
HbA1C, glycated hemoglobin; MET, metabolic equivalent; non-HDL-C, total cholesterol minus HDL-C.

TABLE 3.1 • Classification of Disease Risk Based on Body Mass Index (BMI) and Waist Circumference

		Disease Risk[a] Relative to Normal Weight and Waist Circumference	
	BMI ($kg \cdot m^{-2}$)	Males, ≤102 cm (40 in) Females, ≤88 cm (35 in)	Males, >102 cm (40 in) Females, >88 cm (35 in)
Underweight	<18.5	—	—
Normal	18.5–24.9	—	—
Overweight	25.0–29.9	Increased	High
Obesity, class			
I	30.0–34.9	High	Very high
II	35.0–39.9	Very high	Very high
III	≥40.0	Extremely high	Extremely high

[a]Disease risk for Type 2 diabetes, hypertension, and cardiovascular disease. Dashes (—) indicate that no additional risk at these levels of BMI was assigned. Increased waist circumference can also be a marker for increased risk even in individuals of normal weight.
Modified from (29).

TABLE 3.5 • Fitness Categories for Body Composition (% Body Fat) for Females by Age

		Age (yr)					
%		20–29	30–39	40–49	50–59	60–69	70–79
99	Very lean[a]	11.4	11.0	11.7	13.8	13.8	13.7
95		14.1	13.8	15.2	16.9	17.7	16.4
90	Excellent	15.2	15.5	16.8	19.1	20.1	18.8
85		16.1	16.5	18.2	20.8	22.0	21.2
80	Good	16.8	17.5	19.5	22.3	23.2	22.6
75		17.7	18.3	20.5	23.5	24.5	23.7
70		18.6	19.2	21.6	24.7	25.5	24.5
65		19.2	20.1	22.6	25.7	26.6	25.4
60		20.0	21.0	23.6	26.6	27.5	26.3
55	Fair	20.7	22.0	24.6	27.4	28.3	27.1
50		21.8	22.9	25.5	28.3	29.2	27.8
45		22.6	23.7	26.4	29.2	30.1	28.6
40		23.5	24.8	27.4	30.0	30.8	30.0
35	Poor	24.4	25.8	28.3	30.7	31.5	30.9
30		25.7	26.9	29.5	31.7	32.5	31.6
25		26.9	28.1	30.7	32.8	33.3	32.6
20		28.6	29.6	31.9	33.8	34.4	33.6
15	Very poor	30.9	31.4	33.4	34.9	35.4	35.0
10		33.8	33.6	35.0	36.0	36.6	36.1
5		36.6	36.2	37.0	37.4	38.1	37.5
1		38.4	39.0	39.0	39.8	40.3	40.0
n		1,342	4,376	6,392	4,496	1,576	325

[a]Very lean, no less than 10%–13% body fat is recommended for females.
Total *n* = 18,507.
Adapted with permission from Physical Fitness Assessments and Norms for Adults and Law Enforcement. Dallas (TX): The Cooper Institute; 2013. For more information: http://www.cooperinstitute.org.

The waist-to-hip ratio (WHR) is the circumference of the waist divided by the circumference of the hips (see *Box 3.3* for waist and bunocks/hips measures) and has traditionally been used as a simple method for assessing body fat distribution patterns and identifying individuals with higher amounts of abdominal fat or central adrposity (40). Health risk increases as WHR increases, and the standards for risk va wilh a e and sex. For exam le, for those ounger than 60 yr of age, healthrisk is *very high* for men when WHR is >O.95 and for women when WHR is >0.86 or individuals a ed 60-69 r, the WHR cutoff values are >1.03 for men and >0.90 for women for the same hi h- [is classification as_young adults (21).

Use both mortality calculators to assess 10-year risk of mortality:

Cleveland 10-year Mortality prognosis based on GXT

American College of Cardiology 10-year mortality calculator

Pre-test likelihood of CAD Calculator (Diamond Forrester)

Contrast to GETP 9 Preparticipation screening process using the algorithms below.

TABLE 2.1. ACSM RISK STRATIFICATION CATEGORIES FOR ATHEROSCLEROTIC CARDIOVASCULAR DISEASE

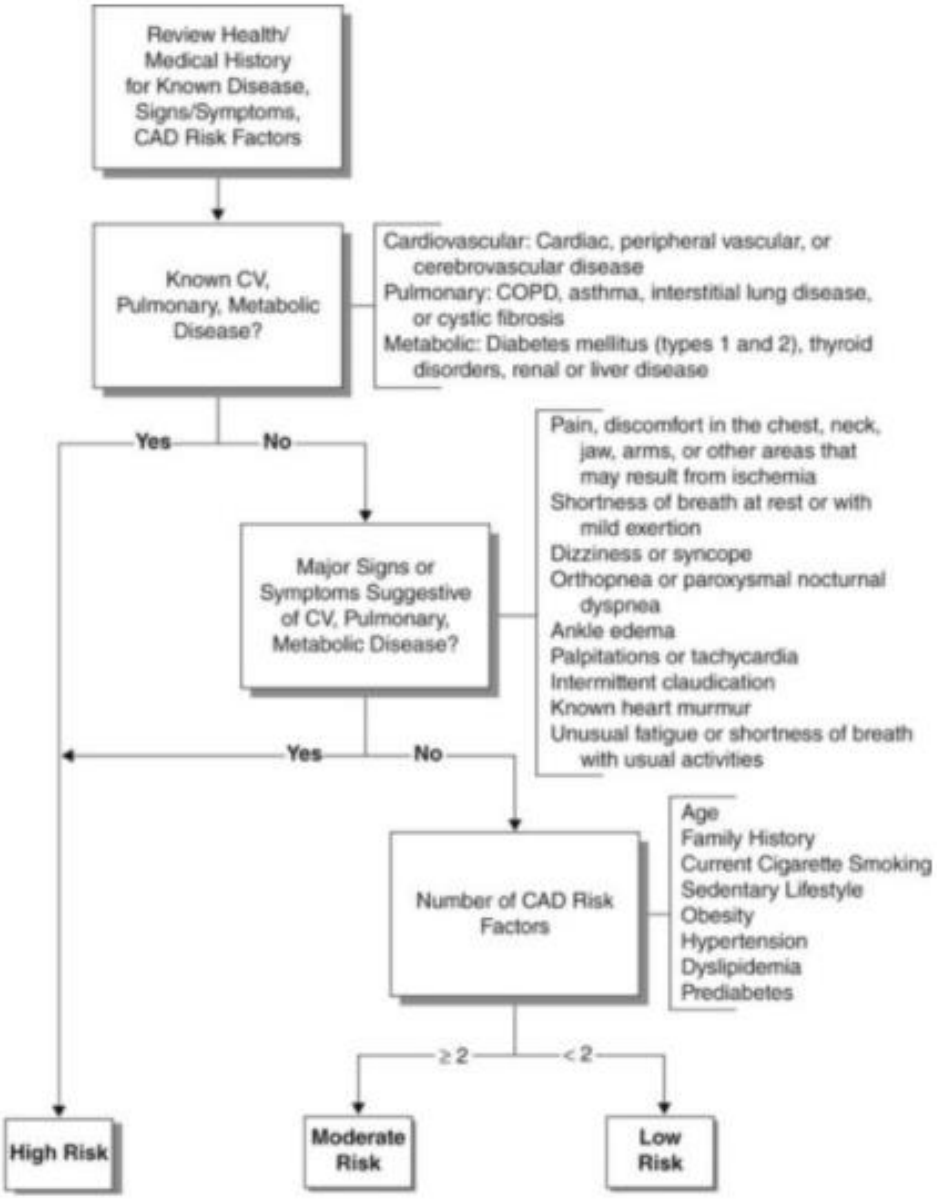
Low risk	Asymptomatic men and women who have ≤1 CVD risk factor from Table 2.3
Moderate risk	Asymptomatic men and women who have ≥2 risk factors from Table 2.3
High risk	Individuals who have known cardiovascular,[a] pulmonary,[b] or metabolic[c] disease *or* one or more signs and symptoms listed in Table 2.2

ACSM, American College of Sports Medicine; CVD, cardiovascular disease.

[a]Cardiac, peripheral vascular, or cerebrovascular disease.

[b]Chronic obstructive pulmonary disease, asthma, interstitial lung disease, or cystic fibrosis.

[c]Diabetes mellitus (type 1, type 2), thyroid disorders, renal, or liver disease.


Review Health/ Medical History for Known Disease, Signs/Symptoms, CAD Risk Factors
Known CV, Pulmonary, Metabolic Disease?
Cardiovascular: Cardiac, peripheral vascular, or cerebrovascular disease
Pulmonary: COPD, asthma, interstitial lung disease, or cystic fibrosis
Metabolic: Diabetes mellitus (types 1 and 2), thyroid disorders, renal or liver disease
Yes
No
Major Signs or Symptoms Suggestive of CV, Pulmonary, Metabolic Disease?
Pain, discomfort in the chest, neck, jaw, arms, or other areas that may result from ischemia
Shortness of breath at rest or with mild exertion
Dizziness or syncope
Orthopnea or paroxysmal nocturnal dyspnea
Ankle edema
Palpitations or tachycardia
Intermittent claudication
Known heart murmur
Unusual fatigue or shortness of breath with usual activities
Yes
No
Number of CAD Risk Factors
Age
Family History
Current Cigarette Smoking
Sedentary Lifestyle
Obesity
Hypertension
Dyslipidemia
Prediabetes
≥ 2
< 2
High Risk
Moderate Risk
Low Risk

Mod Ex: Moderate intensity exercise; 40-60% of $\dot{V}O_{2max}$; 3-6 METs; "an intensity well within the individual's capacity, one which can be comfortably sustained for a prolonged period of time (~45 minutes)"

Vig Ex: Vigorous intensity exercise; > 60% of $\dot{V}O_{2max}$; 6 METs; "exercise intense enough to represent a substantial cardiorespiratory challenge"

Not Nec: Not necessary; reflects the notion that a medical examination, exercise test, and physician supervision of exercise testing would not be essential in the preparticipation screening, however, they should not be viewed as inappropriate

Rec: Recommended; when MD supervision of exercise testing is "Recommended," the MD should be in close proximity and readily available should there be an emergent need

FIG. 19-1 **A,** Model for risk stratification for cardiovascular disease. **B,** Guidelines for test selection and level of supervision required based on the risk assessment. (From American College of Sports Medicine, 2010.)