



CLINICAL EXERCISE SPECIALIST MANUAL

A Fitness Professional's Guide
to Training People with
CHRONIC DISEASE

J. DANIEL MIKESKA DHSc

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**A FITNESS PROFESSIONAL'S GUIDE TO
EXERCISE AND CHRONIC DISEASE**

BY J. DANIEL MIKESKA, DHSC

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CHAPTER 2

SCOPE OF PRACTICE AND HEALTH RISK

By the end of this chapter you will understand:

- The scope of practice for a clinical exercise specialist
 - The on-boarding process (pre-participation screening) for a new client
 - The importance of a paper trail to include a PAR-Q, a health history, the informed consent, and physician clearance
-

Scope of Practice

A basic personal training certification allows a personal trainer to work with apparently healthy clients. If a certified personal trainer (CPT) works with a client who has a chronic disease, a trainer may be outside the scope of practice. Because of the high prevalence of overweight and obesity, and the incidence of adults suffering from one or more chronic disease, chances are many CPTs work outside of their scope of practice (Mikeska, 2017).

When a trainer accepts a client, the client assumes a safe workout will be provided and there will be no undue stress or a risk of injury (Abbott, 2012). By offering advice that falls outside the scope of practice, a trainer and a facility may be open to a lawsuit. *Scope of practice* refers to professional boundaries based on knowledge skill, and abilities (KSAs), and is usually determined by education, experience, and demonstrated competency, such as a program of study, or an exam to measure proficiency (Abbott, 2012; Mikeska, 2015). A clinical exercise specialist (CXS) has the KSAs to conduct pre-participation interviews, perform fitness assessments, and design and implement health and fitness programs for disease management, that avoid future injury, and to improve activities of daily living (Galati, 2015). Although the scope of practice of many allied healthcare fields overlap, and many personal trainers admit

to working with clients outside of their scope of practice (Abbott, 2012; Mikeska, 2017), a CXS is not a licensed healthcare provider and may not diagnose an unknown condition, design meal plans, suggest supplements, physically touch a client, or provide behavioral counseling (Mikeska, 2015; Spivey, 2015). Some KSAs associated with a CXS are:

- Knowledge of basic chronic disease pathophysiology.
- The use and side effects of common medications taken by someone suffering from a chronic disease.
- The knowledge to perform and analyze basic assessments related to movement and anthropometry.
- The knowledge to design a safe and effective workout based on information received via assessment results, and the clinical recommendations from other healthcare providers.
- FITT protocols, exercise progressions, and regressions.
- The implications of exercise and activity for individuals with chronic disease.
- Contraindications of chronic disease, and signs and symptoms of distress related to chronic disease.
- Knowledge of signs and symptoms that require expertise outside of the scope of practice for a CXS.
- The ability to recognize a medical emergency.
- The ability to administer adult CPR and AED.

Pre-participation Screening

A pre-participation screening is one of the best methods to ensure adherence to scope of practice protocols. The purpose of a pre-participation screening is to determine if a client has any contraindications prior to starting an exercise program. Even though all activity and exercise have inherent risks, the risks can be minimized by identifying and defining problems that may not be present during daily activity but may present during moderate or vigorous exercise. According to the American College of Sports Medicine (American College of Sports Medicine [ACSM], 2018), pre-participation screening can identify participants with medical contraindications, indicate participants who need to obtain a medical clearance, and identify participants who fall outside the scope of practice of a CXS (ACSM, 2018; Mikeska, 2017). Questionnaires should include a health history, a pre-activity risk stratification questionnaire, and if appropriate, a medical clearance (ACSM, 2018; Magal & Riebe, 2016; Tsai, 2015).

Par-Q vs. Physical Activity Risk Stratification

A pre-activity readiness questionnaire (PAR-Q) is a short medical questionnaire that provides minimal health information and can be used for clients who will perform low-moderate exercise. The original PAR-Q was seven questions; however, many in the medical community were concerned about its validity due to little evidence-based research, and some thought the simplistic questions led to false positives, and consequently, too many medical referrals (Bredin, Gledhill, Jamnik, & Warburton, 2013). The mentioned concerns led to the creation of the Physical Activity Readiness Questionnaire for Everyone,

or PAR-Q+, which is a 4-page questionnaire, and starts with seven questions similar to original PAR-Q, but based on the answers, has follow-up questions to determine the need for medical clearance. A comparison of the initial questions is in Table 2.1

Table 2.1

<i>PAR-Q vs. PAQ-Q+</i>	
PAR-Q	PAR-Q+
Has your doctor ever said that you have a heart condition and that you should only perform physical activity recommended by a doctor?	Has your doctor ever said that you have a heart condition or high blood pressure
Do you feel pain in your chest when you perform physical activity?	Do you feel pain in your chest at rest, during your daily activities of living, OR when you do physical activity?
In the past month, have you had chest pain when you were not performing any physical activity?	Do you lose balance because of dizziness, OR have you lost consciousness in the past twelve months. Please answer NO if your dizziness was associated with over-breathing (including vigorous activity)?
Do you lose your balance because of dizziness or do you ever lose consciousness?	Have you ever been diagnosed with another chronic medical condition (other than heart disease or high blood pressure)?
Do you have a bone or joint problem that could be made worse by a change in your physical activity?	Are you currently taking prescribed medications for a chronic medical condition?
Is your doctor currently prescribing any medication for your blood pressure or for a heart condition?	Do you have a bone or joint problem that could be made worse by becoming more physically active? Please answer NO if you had a joint problem in the past, but it does not limit your current ability to be physically active. For example, knee, ankle, shoulder, or other.
Do you know of any other reason you should not engage in physical activity?	Has your doctor ever said that you should only do medically supervised physical activity?

As you can see by the initial questions, the PAR-Q and PAR-Q+ are almost identical. Keep in mind, the one drawback to an overly conservative pre-participation screening is the negative effect of keeping asymptomatic individuals from participating in a beneficial exercise program, with the implication that a sedentary lifestyle is less of a risk than being active (Magal & Riebe, 2016; Thompson, Arena, Riebe, & Pescatello, 2013). Additionally, while the initial questions of the PAR-Q and PAR-Q+ are relevant to exercise capacity, they are not necessarily relevant to the risk of sudden death. Accordingly, ACSM has new pre-participation health screening recommendations (Magal & Riebe, 2016). Because exercise is safe for most people, and the absolute risk of a cardiovascular (CV) event is extremely low, as demonstrated by the list below (Magal & Riebe, 2016), it is thought previous guidelines were too conservative, with up to 95% of clients over age 40 advised to seek medical clearance.

- A single sudden cardiac death (SCD) occurs every 1.5 million episodes of vigorous physical exertion.

- A single SCD occurs every 36.5 million hours of moderate-to-vigorous exertion in women.
- Approximately 1 death occurs per 396,000 hours of jogging.
- Approximately 1 death occurs per 2,897,057 person-hours of exercise.
- Approximately 1 acute myocardial infarction (AMI) incident occurs per 184,000 runners.
- Approximately 1 SCD incident occurs per 256,000 runners.
- Approximately .20 AMI and 0.14 SCD per 100,000 estimated runner-hours.

The objective of the new guidelines is similar to the old (Magal & Riebe, 2016):

1. To identify individuals who should receive medical clearance before starting a new program or increasing the frequency, intensity, and/or volume of an existing exercise program.
2. To identify individuals who present with CV, metabolic, and/or renal diseases and will benefit from participating in a medically-supervised exercise program.
3. To identify individuals with CV, metabolic, and/or renal diseases who must wait until their medical condition(s) have improved to proceed with an exercise program.

However, individuals with pulmonary disease, joint or bone disease, or other non-life-threatening chronic conditions no longer need medical clearance to begin a light to moderate exercise program. Additionally, a recommendation to obtain medical clearance leaves the decision to perform a medically-supervised exercise test to a qualified physician, and not a CXS.

If your place of business requires the PAR-Q, PAR-Q+, or the electronic Physical Activity Readiness Medical Examination ePARmed-X+, you should comply with institutional protocols.

The sample Physical Activity Risk Stratification form ([Appendix A](#)) can be used as a guideline, or visit <http://links.lww.com/FIT/A31> to download the pre-participation health screening form from ACSM. Other cardiovascular disease (CVD) risk factors that require close observation but may not prevent an individual from participating in an exercise program are listed in Table 2.2.

Table 2.2

CVD risk factors

Positive Risk Factor	Criteria
Age	Males 45 or older; Females 55 or older
Family History	Heart attack, coronary revascularization, or sudden death First degree relative: Male prior to 55 or female prior to 65 years of age
Cigarette Smoking	Within last 6 months, or subjected to secondhand smoke
Sedentary Lifestyle	NOT participating in 30 minutes of moderate-intensity activity 3 days/week for the last 3 months
Obesity	BMI 30 or higher. Waist circumference greater than 40" for males or 35" for females. Waist more than half of height
Hypertension	BP greater than 139/89, or currently on antihypertension medication
Dyslipidemia (Cholesterol)	LDL greater than 129, HDL less than 40, total greater than 200, or currently on medication
Pre-Diabetes/Diabetes	Fasting glucose greater than 99
Negative Risk Factor	Criteria
High Serum HDL	HDL greater than 60

Other signs and/or symptoms that indicate an exercise session should stop, be recorded, and details given to the client's physician are:

- Difficulty breathing
- Edema
- Tachycardia
- Pain or cramping in the lower legs (claudication)
- Unusual fatigue
- Dizziness

Health History

A health history questionnaire is usually completed after a PAR-Q, any CVD risk stratification, or the Physical Activity Risk Stratification form and provides valuable, detailed information for a CXS to develop an appropriate exercise program for a client with chronic disease. The form should include:

- Demographic information
 - o Age
 - o Sex
 - o Marital status
- Exercise history
- Any medications and supplements
- Past or current illness or injuries
- Last medical exam
- Surgical history
- Known allergies
- Family medical history (Graham & Whitehead, 2018; Tsia, 2015)

Additional information related to lifestyle, employment, stress level, and attitude toward exercise and activity may also be beneficial to develop and implement a successful workout plan.

Informed Consent

Starting with the Hippocratic Oath and continuing today, ethics in medicine is a fundamental expectation of most people. The four principles of healthcare ethics are non-maleficence (do no harm), beneficence (do good to/for others), autonomy (self-determination and freedom of choice), and justice (equitable and fair treatment). Informed consent is based on the ethical principles of autonomy and beneficence (Schenker & Meisel, 2011).

Autonomy states an individual has the right to make choices without unnecessary influence or interference, while beneficence requires a participant will not be subjected to physical or psychological harm. Additionally, privacy and confidentiality are included under the principles of autonomy and beneficence (U.S. Department of Health & Human Services, n.d). Privacy specifies a participant will be free from unwarranted intrusion and allows participants to determine the extent of access others may have over them (autonomy). Confidentiality concerns with data, and how private data are controlled so potentially damaging information is not made public (beneficence).

An informed consent form should be completed by a client prior to any testing, program design, or the initiation of an exercise program. The form should contain information regarding the purpose and explanation of any assessments, any risks associated with participation, the expected benefits from participation, confidentiality controls and how information will be used and/or shared, and an acknowledgement that questions have been answered and a client fully understands the document. By signing an informed consent form, a client acknowledges the risks associated with the discussed activity and exercise plan, and is participating voluntarily (Graham & Whitehead, 2018).

Although having every client complete an informed consent is highly recommended, there is not an example of an informed consent or waiver included due to the variabilities across state and local laws. It is the responsibility of a CXS to seek legal advice from a qualified attorney.

A medical clearance form is not part of the pre-participation screening process, however, regardless of the necessity, it is recommended at some point, every client obtains medical clearance from a physician to evaluate any known medical conditions. For known CVD risk factors, follow the guidelines in the Physical Activity Risk Stratification form. The pre-participation screening and the medical clearance can provide information to effectively design a workout plan for clients with chronic disease, and to clarify goals, benefits, and risks. Additionally, the information can also prove invaluable for preparation if a medical emergency occurs. A sample medical clearance form can be found in Appendix B.

Discussion and application

1. What is the purpose of performing a pre-participation health screening (risk assessment), and what is involved?
2. How would you handle a client who _____, and on what do you base your answer?
 - a. Asks for nutrition advice
 - b. Wants you to push on an overactive trigger spot
 - c. Asks about knee or shoulder pain they may be experiencing

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