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ACC Middle East Conference 2017

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Development of an Exercise Prescription

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ACC Middle East Conference 2017

DISCLOSER

- No DISCLOSER

OBJECTIVE

- **Development of an individually tailored exercise prescription**
- **Types of Physical Activity**
- **The FITT Principle of Prescribing Aerobic Exercise**
- **Rate of Progression of Aerobic Exercises**
- **Improving Exercise Adoption and Maintenance**

Case 1

- Mr. Ali is a 62 year male businessman
- X- smoker, not no any regular exercise
- DM, HTN, DLP
- Had STEMI 3 months back, stenting of LAD
- denies any symptoms since than, had 2 weeks back TMT reported negative at 9 min, Echo showed mild antero-septal hypokansia EF 50%
- Compliant to medication
- BP 134/86, HR 89, SPO99%, BMI 32

Development of an individually tailored exercise prescription

- Physical activity counselling

- Prescribe physical activity according to the patient´s age, past habits, co-morbidities, preferences and goals.
- Exercise must be individually prescribed based on tests of physical capacity

Terminology

- Physical Activity Any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level.

  physical activity generally refers to the subset of physical activity that enhances health.
- Exercise A subcategory of physical activity that is planned, structured and repetitive in the sense that the improvement or maintenance of one or more components of physical fitness is the objective.

  performed during leisure time with the primary purpose of improving or maintaining physical fitness, physical performance, or health.
- Sport Sport covers a range of physical activities performed within a set of rules and undertaken as part of leisure or competition. Sporting activities usually involve physical activity carried out by teams or individuals and are supported by an institutional framework, such as a sporting agency .

pre-exercise screening and evaluation

Rationale for pre-testing and screening

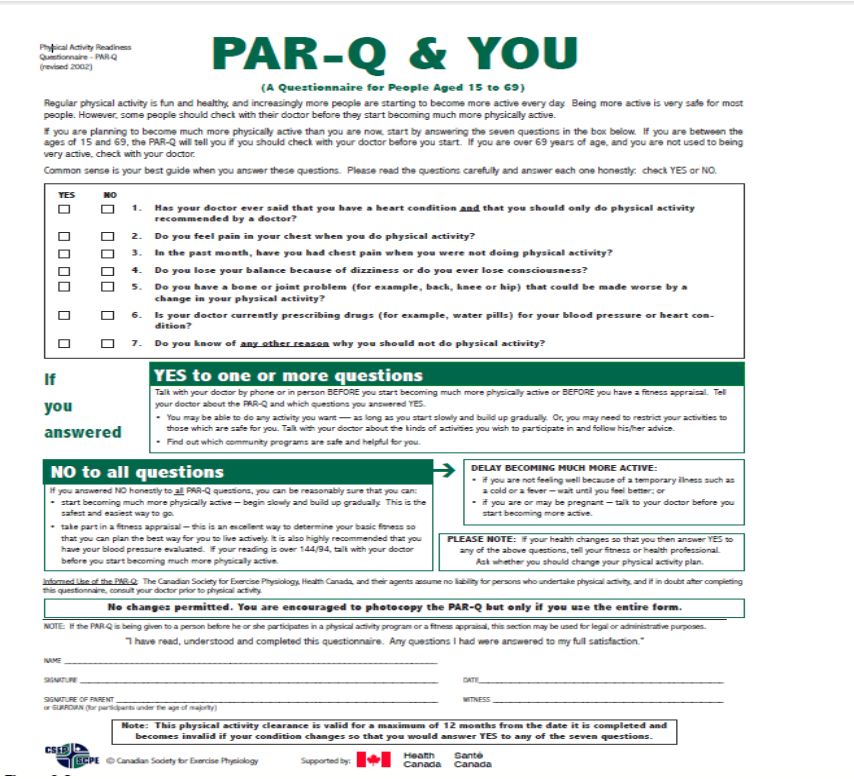
- Physical fitness testing is useful for the following:
  - **Identifying adverse S/S or conditions that might compromise well-being during exercise**.
  - **Provides an opportunity for individuals to be educated and motivated to adopt more healthful lifestyles**
  - **Helps in establishing goals to progress toward**.

pre-exercise screening and evaluation

- While moderate levels of physical activity promote numerous benefits, there is an increased risk for those individuals who are:
  - ✓ Unhealthy
  - ✓ Have an existing disease
  - ✓ At risk for disease
- Pre-participation screening includes identifying:
  - ✓ The presence or absence of known disease
  - ✓ Signs or symptoms suggestive of disease
  - ✓ Medical contraindications
  - ✓ At-risk individuals who should first undergo medical evaluation
  - ✓ Those with medical conditions who should participate in medically supervised programs

THE HEALTH-RISK APPRAISAL

- The Physical Activity Readiness Questionnaire (PAR-Q) is a minimal, safe pre-exercise screening measure for low-to-moderate training:
  - ✓ A minimal health-risk appraisal prerequisite
  - ✓ Quick, easy, and non-invasive to administer
  - ✓ Limited by its lack of detail and may overlook important health conditions, medications, and past injuries
    - The process for health-risk appraisal:
  - ✓ Review the client's health information, medical history, and lifestyle habits
  - ✓ Risk stratification
  - ✓ Need for medical examination/clearance or supervision
  - ✓ Recommendations for lifestyle modification
  - ✓ Strategies for exercise testing and programming



Physical Activity Readiness Questionnaire - PAR-Q (revised 2002)

PAR-Q & YOU

(A Questionnaire for People Aged 15 to 69)

Regular physical activity is fun and healthy, and increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctor before they start becoming much more physically active.

If you are planning to become much more physically active than you are now, start by answering the seven questions in the box below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start. If you are over 69 years of age, and you are not used to being very active, check with your doctor.

Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly: check YES or NO.

YES	NO	
☐	☐	1. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor?
☐	☐	2. Do you feel pain in your chest when you do physical activity?
☐	☐	3. In the past month, have you had chest pain when you were not doing physical activity?
☐	☐	4. Do you lose your balance because of dizziness or do you ever lose consciousness?
☐	☐	5. Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity?
☐	☐	6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?
☐	☐	7. Do you know of any other reason why you should not do physical activity?

If you answered YES to one or more questions

Talk with your doctor by phone or in person BEFORE you start becoming much more physically active or BEFORE you have a fitness appraisal. Tell your doctor about the PAR-Q and which questions you answered YES.

- You may be able to do any activity you want — as long as you start slowly and build up gradually. Or, you may need to restrict your activities to those which are safe for you. Talk with your doctor about the kinds of activities you wish to participate in and follow his/her advice.
- Find out which community programs are safe and helpful for you.

NO to all questions

If you answered NO honestly to all PAR-Q questions, you can be reasonably sure that you can:

- start becoming much more physically active – begin slowly and build up gradually. This is the safest and easiest way to go.
- take part in a fitness appraisal – this is an excellent way to determine your basic fitness so that you can plan the best way for you to live actively. It is also highly recommended that you have your blood pressure evaluated. If your reading is over 144/94, talk with your doctor before you start becoming much more physically active.

DELAY BECOMING MUCH MORE ACTIVE:

- if you are not feeling well because of a temporary illness such as a cold or a fever – wait until you feel better; or
- if you are or may be pregnant – talk to your doctor before you start becoming more active.

PLEASE NOTE: If your health changes so that you then answer YES to any of the above questions, tell your fitness or health professional. Ask whether you should change your physical activity plan.

Informed Use of the PAR-Q: The Canadian Society for Exercise Physiology, Health Canada, and their agents assume no liability for persons who undertake physical activity, and if in doubt after completing this questionnaire, consult your doctor prior to physical activity.

No changes permitted. You are encouraged to photocopy the PAR-Q but only if you use the entire form.

NOTE: If the PAR-Q is being given to a person before he or she participates in a physical activity program or a fitness appraisal, this section may be used for legal or administrative purposes.

"I have read, understood and completed this questionnaire. Any questions I had were answered to my full satisfaction."

NAME _____

SIGNATURE _____ DATE _____

SIGNATURE OF PARENT or GUARDIAN (for participants under the age of majority) _____ WITNESS _____

Note: This physical activity clearance is valid for a maximum of 12 months from the date it is completed and becomes invalid if your condition changes so that you would answer YES to any of the seven questions.

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Dose / Dosage

- In the field of physical activity, dose refers to the amount of physical activity performed by the subject or participant.
- The total dose or amount is determined by the three components of activity: frequency, duration, and intensity.
- Frequency is commonly expressed in sessions, episodes, or bouts per day or per week.
- Duration is the length of time for each bout of any specific activity.
- Intensity is the rate of energy expenditure necessary to perform the activity to accomplish the desired function (aerobic activity) or the magnitude of the force exerted during resistance exercise

Workout Log

	ACTIVITY	Time	Dist.	Sets	Reps	Weight
Day 1						
Day 2						
Day 3						

Types of Physical Activities and Their Effects on Physical Fitness

- Aerobic Activity: Improves body composition and cardiorespiratory fitness
- Muscle-strengthening Activity: Improves muscular fitness such as muscular strength and endurance
- Stretching Activity: Improves flexibility such as range of motion
- Neuromuscular Activity: Improves neuromuscular fitness such as balance, agility and proprioception

The FITT Principle of Prescribing Aerobic Exercise

- Frequency (F) The number of days per week dedicated to an exercise session
- Intensity (I) How hard a person works to do the activity. It can be defined on either an absolute or a relative scale.

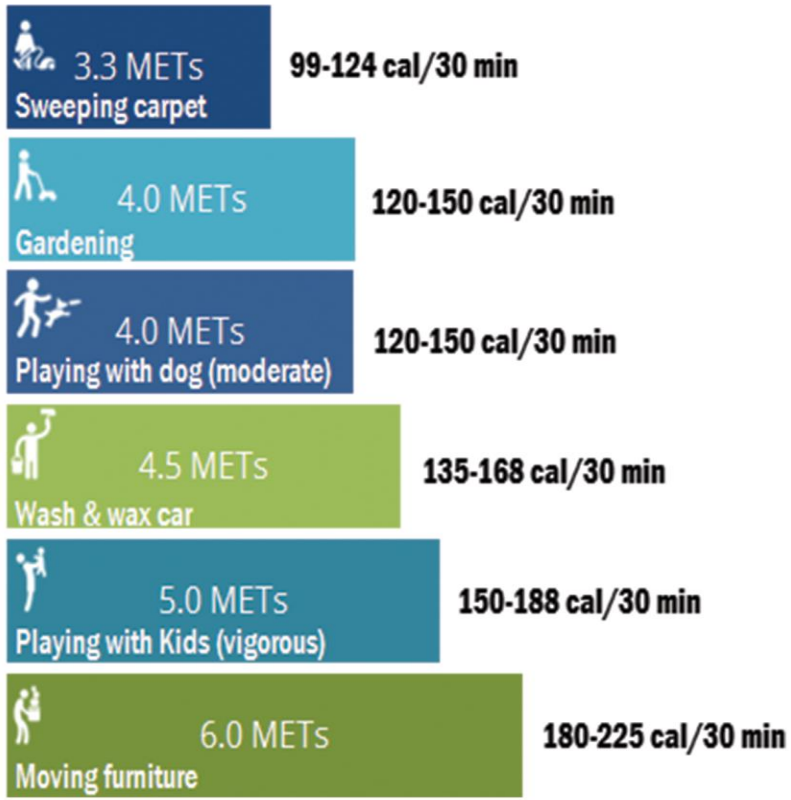
Absolute intensity refers to the amount of energy expended per min of activity (eg. Metabolic equivalents METs), while relative intensity takes a person's level of exercise capacity or cardiorespiratory fitness into account to assess the level of effort (eg. Ratings of perceived exertion RPE).

Either scale can be used to monitor the intensity of aerobic exercises

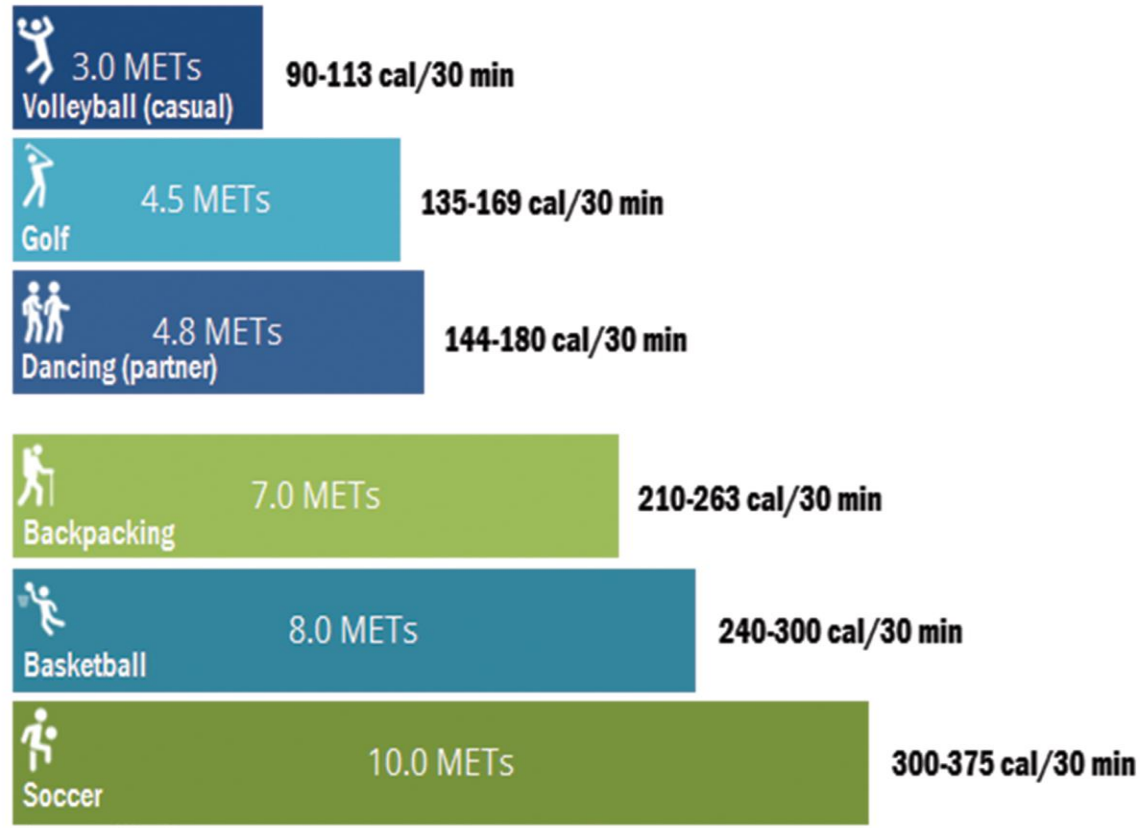
As a rule of thumb, a person doing moderate-intensity aerobic exercise can talk, but not sing, during the activity. A person doing vigorous-intensity exercise cannot say more than a few words without pausing for a breath.

- Time (T) The length of time in which an activity or exercise is performed. Duration is generally expressed in mins.
- Type (T) The mode of exercise performed.

At home activities



Sports and leisure



Rating of Perceived Exertion
Borg RPE Scale

6		How you feel when lying in bed or sitting in a chair relaxed. Little or no effort.
7	Very, very light	
8		
9	Very light	
10		
11	Fairly light	
12		Target range: How you should feel with exercise or activity.
13	Somewhat hard	
14		
15	Hard	
16		
17	Very hard	How you felt with the hardest work you have ever done.
18		
19	Very, very hard	
20	Maximum exertion	Don't work this hard!

6 	I feel like I'm going to die if I don't stop soon.
5 	I'm sweating like a pig. I couldn't talk even if I wanted to, but I can grunt!
4 	This is hard, and I don't really want to talk, but I can still keep going
3 	I'm a bit more puffed, but that won't stop me talking
2 	I feel good, and I'm just a little bit puffed
1 	I can run like this all day. In fact, I can walk faster than this!

Rate of Progression of Aerobic Exercises

- Progression of exercise refers to the process of increasing the intensity, duration, frequency, or amount of activity or exercise as the body adapts to a given activity pattern.
- Increasing Duration: E.g. increase duration of exercise session by 5 to 10 mins every 1 to 2 weeks over the first 4 to 6 weeks.
- Increasing Frequency and Intensity: E.g. increase frequency and intensity of exercise session as tolerated over the next 4 to 8 months.
- The individual should be monitored for any adverse effects of the increased volume, and downward adjustments should be made if the exercise is not well tolerated.

Components of a Single Exercise Session

- Warm-up > At least 5 to 10 mins of low to moderate intensity aerobic exercise or resistance exercise with lighter weights.
- Conditioning > 0 to 60 mins of aerobic, resistance, neuromuscular, and/or sport activities
- Cool-down > At least 5 to 10 mins of low to moderate intensity aerobic exercise or resistance exercise with lighter weights
- Stretching >At least 10 mins of stretching exercises performed after the warm-up or cool-down phase

Improving Exercise Adoption and Maintenance

- Individually adapted behavior change is critical to facilitate a physically active lifestyle, but the process involves a multitude of complex variables, including personal, programmatic, social, environmental and related factors.
- Effective physical activity interventions include

(a) increasing social support and self-efficacy

(b) reducing barriers to exercise

(c) using information prompts

(d) making social and physical environmental changes.

- Getting started with exercise prescription will be made easier if you follow the behavioral model and counseling techniques.

The Physical Activity Stage of Change

- Precontemplation : The individual is not physically active now and does not intend to become more physically active in the next 6 months
- Contemplation : The individual is not physically active now but intends to become more physically active in the next 6 months
- Preparation :The individual is physically active now but not to the recommended level (i.e. Engaging in regular physical activity – activities add up to a total of 30 or more mins per day and be done at least 5 days per week).
- Action : The individual has been engaging in regular physical activity to the recommended level for less than 6 months.
- Maintenance :The individual has been engaging in regular physical activity to the recommended level for the past 6 months.

Using Client-Centred Techniques during Counselling

- Through the use of a few patient-centred counselling techniques, one can increase satisfaction and compliance among patients:

A. Ask simple, open-ended questions.
B. Listen and encourage with verbal and non-verbal prompts.
C. Clarify and summarize.
D. Check your understanding of what the patient said and check to see that the patient understand what you said.
E. Use reflective listening.

How You Know When You are Using Patient-Centred Approach

- You are speaking slowly.
- The patient is talking more than you are.
- The patient is talking about behavioral change.
- You are listening intently and directing the conversation when appropriate.
- The patient appears to be making realisations and connections that he or she has not previously considered.
- The patient is asking you for information or advice

Practical Recommendations to Enhance Exercise Adherence

- Clarify individual needs to establish the motive for exercise
- Identify individualized attainable goals and objectives for exercise
- Identify safe, convenient and well-maintained facilities for exercise
- Identify social support for exercise
- Identify environmental supports and reminders for exercise
- Identify motivational exercise outcomes for self-monitoring of exercise progress and achievements, such as step counters
- Emphasize and monitor the acute or immediate effects of exercise
- Emphasize variety and enjoyment in the exercise programme
- Establish a regular schedule of exercise
- Provide qualified, personable and enthusiastic exercise professionals
- Minimise muscle soreness and injury by participation in exercise of moderate intensity, particularly in the early phase of exercise adoption


DIESEL

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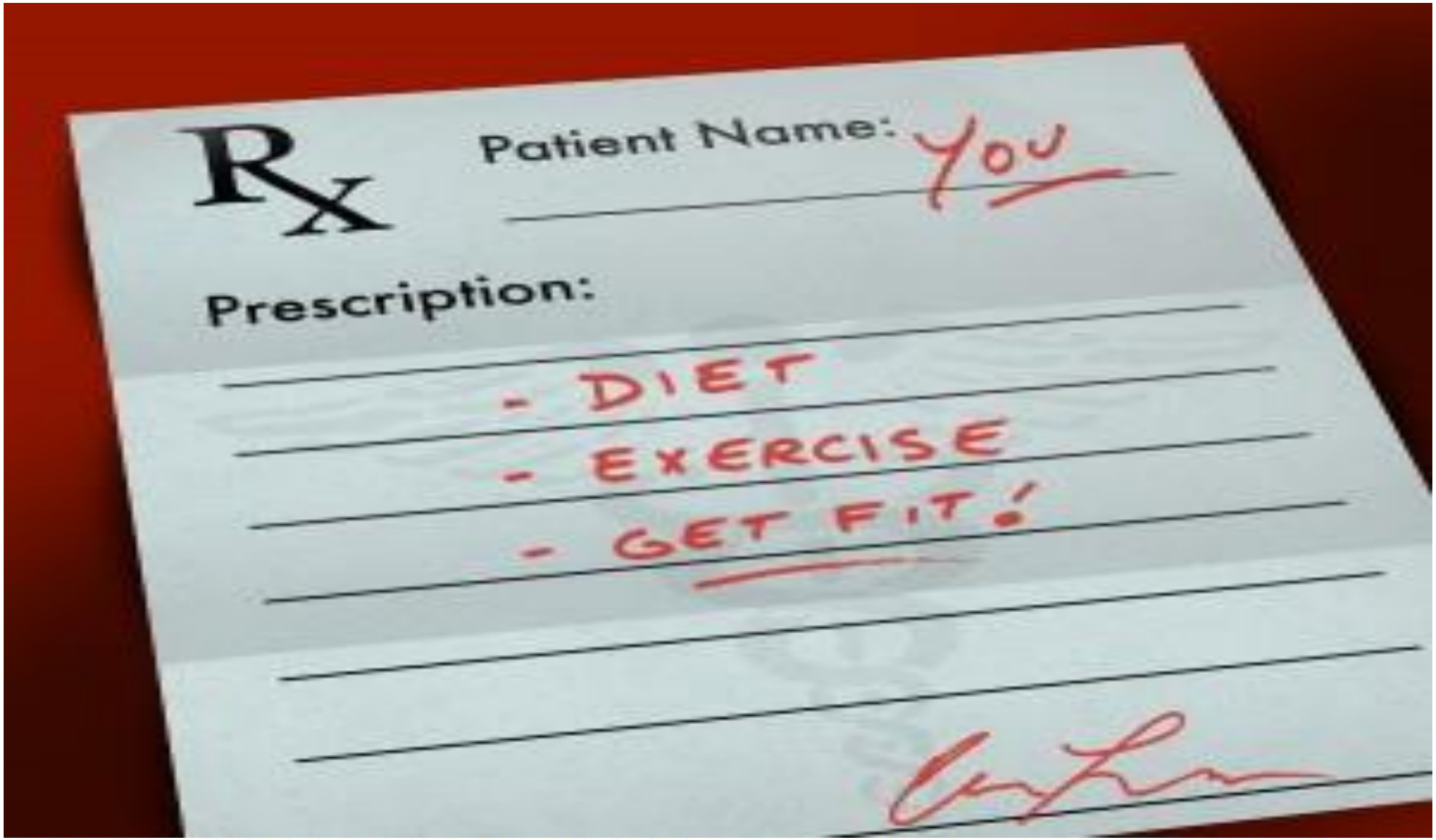
Rx
Patient Name: You
Prescription:
- DIET
- EXERCISE
- GET FIT!