

Exercise therapy for the exercise naïve: The first step in obesity management

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Abstract

Exercise is an integral part of obesity management and health promotion. This brief communication shares practical and pragmatic tips as to how to initiate physical activity in an exercise-naïve person with obesity. This information will be useful for all health care professionals who manage patients with obesity, including physicians and physiotherapists. A step-wise initiation of physical activity starting from flexibility training, balance practice and then aerobic and resistance exercises would help to provide a long term sustainable pattern of physical activity.

Keywords: Exercise, Obese, Overweight, Obesity, Person-centered care, Physical activity, Workout.

Introduction

Exercise is an integral part of obesity management. Most guidelines and recommendations are concordant in their call for regular physical activity, including aerobic and resistance exercise.¹ The duration, intensity, and relative importance of both types of exercise may vary, according to needs and preferences. However, few experts describe how to begin exercise therapy in an exercise-naïve individual living with obesity.

Role of Exercise

About 30 minutes of moderate intensity physical activity for 5 days/week is required to maintain cardiovascular and metabolic health.² Aerobic exercise of at least 150 min/week to 300 min/week and Resistance exercise of at least 2 days/week will be required to reverse pre-existing conditions such as obesity and insulin resistance.³ Responsiveness to exercise also varies from person to person, and is influenced by age, gender, degree of obesity, adipose tissue topography, associated medical/metabolic comorbidities, concomitant therapy, and degree of caloric restriction.⁴

In a person with obesity, 60 to 90 minutes of moderate

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intensity or 20 minutes of vigorous activity (50-75% of Target Heart Rate) is required for effective weight loss. Both exercise and calorie restriction, practiced together, offer the best chance of reducing weight, without losing fat free mass, and without causing nutrient deficiency.⁵

Types of Exercise

From a practical viewpoint, exercise can be classified as flexibility enhancing, aerobic and resistance exercises. These are defined and described in Table. All types of exercise have their advantages, and a comprehensive combination is the best approach to weight loss.

Pre-Exercise Check-Up (Pre-Participation Screening)

A Pre-Participation Screening with a Qualified Physiotherapist must be conducted prior to prescribing exercise. This helps to identify musculoskeletal, medical, metabolic, monetary and mood related barriers to physical activity, so that they can be addressed appropriately.⁶ The risk of injury and other complications can also be gauged, so that they can be pre-empted by prescribing the correct mode of exercise therapy and gadgets. It is also important to identify a safe environment for performing these physical activities, such that the prescribed exercises can be customized to the available space and environment.⁷

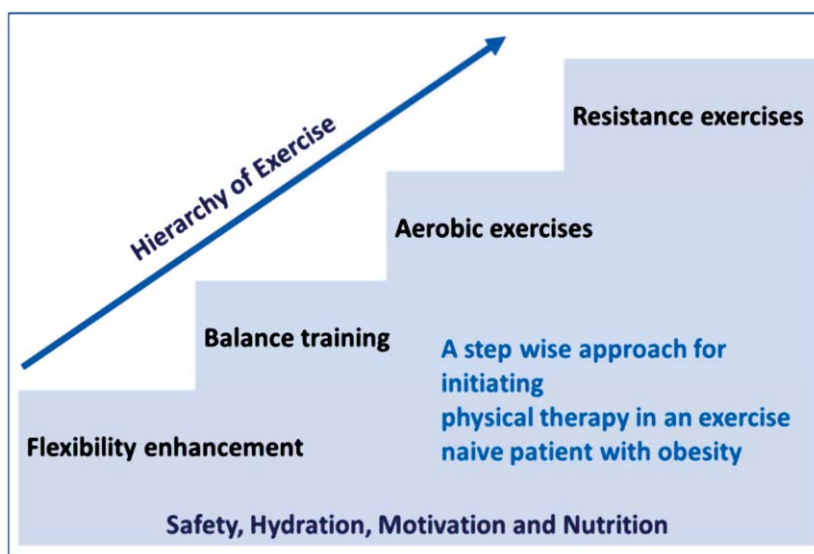
Hierarchy of Exercise

Exercise regimens should be initiated gradually, and up titrated (in duration and intensity) at a slow speed. In an exercise-naïve person, one should begin with flexibility and balance exercises. These help to explore, and optimize, the range of movements at all joints, and allow the exercise physiologist to plan the course of further therapy.

Once the individual has become attuned to the concept of exercise, non-weight bearing aerobic exercise such as stationary cycling can be introduced. These are followed by low impact aerobic exercises (where at least one foot is firmly on the ground at any given time) and then by high impact aerobic exercises. The next step in the hierarchy is to introduce resistance exercises of gradually increasing intensity. All major muscle groups the trunk, upper limbs and lower limbs; proximal and distal; must be exercised to ensure and this should be taken into account while

Table: Types of exercise.

Type	Examples	Definition	Caveats
Flexibility enhancing	Stretching of various muscle groups at various joints by sustaining the stretched posture for 15-30 seconds	Flexibility is a Range of movement at a joint or a group of joints to improve movements.	Dynamic stretching can be used as a form of Warm up (before starting Main Exercise) and Static stretching can be used as a Cool Down (after completing the Main Exercise) Breathe normally
Balance practice	Standing on one foot; heel-to-toe walk; balance walk	Balance means ability to maintain line of gravity within the base of support. It is an individual's ability to maintain equilibrium when subjected to external forces. Balance Exercises aim to improve your balance & equilibrium in various static and dynamic postures.	Don't hesitate to use a support, such as the back of a chair, or another person, if you are not confident. Do not perform this independently if you have a neurological disorder
Aerobic (Endurance)	Brisk walking jogging, heavy gardening, dancing, swimming, cycling, stair climbing	Aerobic exercise is any activity that uses the larger muscles groups in a continuous and rhythmic nature improving your Cardiovascular Function	Do warm up and cool down before and after exercise, Stay hydrated. Ensure to maintain an Exercise Heart Rate (50-75%of THR)
Resistance (Strength)	Weight lifting with light weight dumbbells and body weight exercises like wall push-ups, body push-ups	Resistance exercise is an exercise that uses the larger muscle group against a resistance to improve its strength	Breathe regularly, listen to your muscles; rest them if they are fatigued. As a beginner, focus on 1 Set of 8-10 Repetitions with light weights and increase the intensity gradually

**Figure:** Hierarchy of exercise.

intensifying therapy (Figure).

Safety First

One should always start exercise with a Dynamic Warm Up. This consists of a few minutes of activity that will slowly elevate the heart rate and the movements will move the joints in larger range of motion minimizing the risk of muscle injury during the main workouts. Small bouts of exercise may be practiced twice a day until endurance is built up to sustain activity for longer duration at one time.

Exercise should be discontinued temporarily, and then

restarted at a lower intensity, in case of breathlessness, giddiness or muscle pain.

Motivation

Motivation is of utmost importance for exercise initiation, intensification and maintenance. This is especially true for the exercise-naïve person. A supportive social environment, characterized by empathy and understanding, contributes to better adherence to therapy.^{8,9} A person-friendly choice of exercise regimens, exercise environment and exercise partner is essential for long term persistence. Modern technology, such as wearable monitors, and exercise aids, such as resistance bands are helpful in promoting regular exercise.¹⁰

Nutrition and Hydration

Nutrition and hydration are important aspect of a fitness regimen. A fruit or a high protein pre-workout snack, coupled with adequate intake of electrolyte containing beverages, are helpful in improving exercise tolerance. From a South Asian perspective, suitable snacks include boiled eggs, grilled cottage cheese, roasted nuts and pulses, and savoury snacks made of gram flour.⁵ Beverages such as lemonade, buttermilk (salted), Cumin water (jaljeera), water balls(panipuri) water and kokum juice are useful in maintaining fluid and electrolyte balance.¹⁰ A post-workout meal should be consumed preferably after a Cool Down. There are 3 R's of a post workout meal:

1. Rehydrate - Drink 1-2 glasses of water after exercise. It will make up for fluid and electrolyte losses during workout.

2. Replenish - replenish your glycogen stores with a fruit or take an appropriate advice from your nutritionist as per your body requirements.

3. Repair - A good protein rich meal will carry out its repair work and prevent tissue microdamage.

Charity Begins at Home, So Does Exercise

The best motivator is one who practices what he preaches. We request all exercise — naïve readers to begin regular physical activity, exercise and sports. For those who do exercise, we request you to intensify it, by increasing the duration and intensity.

Summary

Well begun is half done. This brief communication focuses on initiating exercise in exercise-naïve persons. The simple description and tips mentioned herein are useful in getting obese persons to begin physical activity and exercise. Once this is achieved at an individual and a community level, one of the major barriers to managing obesity will be overcome.

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