

Introduction to Exercise Therapy

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Designed as a quick-reference guide for students, clinicians, and fitness professionals.

1. What Is Exercise Therapy?

Aspect	Definition
Core concept	The systematic prescription of physical activity to prevent, treat, or manage medical conditions and improve functional capacity.
Goal	Restore or enhance physical, physiological, and psychological health through targeted exercise interventions.
Setting	Clinics, hospitals, rehabilitation centers, community programs, home-based plans, or tele-rehab platforms.
Population	All ages – from pediatric to geriatric – and a wide range of conditions (musculoskeletal, cardiopulmonary, neurologic, metabolic, mental health).

2. Foundations & Principles

Principle	Key Points
Individualisation	Tailor intensity, type, frequency, and duration to the person’s diagnosis, fitness level, goals, and preferences.
Progressive Overload	Gradually increase workload (e.g., weight, speed, time) to stimulate adaptation while avoiding injury.
Specificity	Choose exercises that mimic the functional tasks or muscle groups needed for the target outcome.
Periodisation	Organise training into phases (e.g., acute, meso, long-term) to optimise adaptation and recovery.
Safety & Contraindications	Screen for medical red flags, monitor vital signs, and modify or pause when adverse responses occur.
Adherence Strategies	Use goal-setting, education, feedback, and enjoyable activities to promote long-term compliance.

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3. Components of an Exercise Prescription

Component	Typical Options	Example for a 55-year-old with knee OA
Aerobic (Cardiovascular)	Walking, cycling, swimming, treadmill, elliptical	20-min brisk walking, 3x/week, moderate intensity (RPE 11-13).
Resistance (Strength)	Free weights, machines, resistance bands, bodyweight	2 sets of 10-12 reps for quadriceps, hamstrings, hip abductors; 2x/week.
Flexibility / Stretching	Static, dynamic, proprioceptive neuromuscular facilitation (PNF)	30-sec static stretch of calf & hamstring after each session.
Balance / Proprioception	Single-leg stance, wobble board, tai chi, yoga	5-min single-leg balance on firm surface, 3x/week.
Functional / Task-Specific	Gait training, stair climbing, sit-to-stand drills	3x10 sit-to-stand repetitions, progressing to higher steps.
Neuromuscular / Motor Control	Core activation, gait retraining, coordination drills	10-min core circuit (plank variations) twice weekly.

Prescription format (FITTTE): Frequency, Intensity, Time, Type, Equipment, Exercise progression.

4. Common Clinical Indications

Condition	Primary Exercise Goals	Typical Modalities
Cardiovascular disease	Improve VO ₂ max, lower blood pressure, enhance endothelial function	Aerobic (continuous or interval), low-impact resistance
Chronic obstructive pulmonary disease (COPD)	Increase endurance, reduce dyspnea, improve sputum clearance	Interval walking, inspiratory muscle training