

Exercise Therapy

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Effects of Therapeutic Exercises

Therapeutic Exercise: Effects, Benefits and Impact on Physical Function

Effects of Exercise Therapy

Definition

Exercise therapy is the planned use of physical activity and movement to improve physical function, prevent disability, and promote health and well-being.

Short-Term Effects of Exercise Therapy

1. Cardiovascular Effects

During exercise, the heart beats faster and pumps more blood to the working muscles. This increases oxygen and nutrient delivery to meet the body's immediate energy demands.

2. Respiratory Effects

The rate and depth of breathing increase during exercise. This helps supply more oxygen to the tissues and removes carbon dioxide more efficiently.

3. Muscular Effects

Exercise increases muscle temperature and blood flow, making muscles more flexible and efficient. Temporary muscle fatigue may occur after prolonged or intense activity.

4. Neuromuscular Effects

Exercise improves communication between nerves and muscles, resulting in better coordination and movement control. Reaction time and motor performance may also improve.

5. Psychological Effects

Physical activity stimulates the release of endorphins, producing a feeling of well-being. It helps reduce stress, anxiety, and mental fatigue.

Long-Term Effects of Exercise Therapy

1. Cardiovascular Adaptations

Regular exercise strengthens the heart muscle and improves its efficiency. Resting heart rate decreases, and the cardiovascular system becomes more effective at delivering oxygen.

2. Musculoskeletal Adaptations

Long-term exercise increases muscle strength, endurance, and flexibility. It also improves joint stability and helps maintain healthy bones and connective tissues.

3. Respiratory Adaptations

Regular training improves lung efficiency and enhances the body's ability to utilize oxygen. This results in better exercise tolerance and reduced breathlessness during activities.

4. Neuromuscular Adaptations

Exercise improves balance, coordination, posture, and proprioception. These adaptations help in performing daily activities more efficiently and reduce the risk of falls and injuries.

5. Functional and Psychological Benefits

Long-term exercise enhances functional independence and quality of life. It improves self-confidence, reduces the risk of chronic diseases, and promotes overall physical and mental health.

Examination Summary

Short-Term Effects

- Increased heart rate and breathing rate.
- Increased muscle blood flow and temperature.
- Improved coordination and mood.

Long-Term Effects

- Increased strength, endurance, and flexibility.
- Improved cardiovascular and respiratory efficiency.
- Better functional capacity and quality of life.

Reference

Kisner C, Colby LA, Borstad J. Therapeutic Exercise: Foundations and Techniques. 8th Edition.

Gardiner MD. Principles of Exercise Therapy. Principles of Exercise Therapy.

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