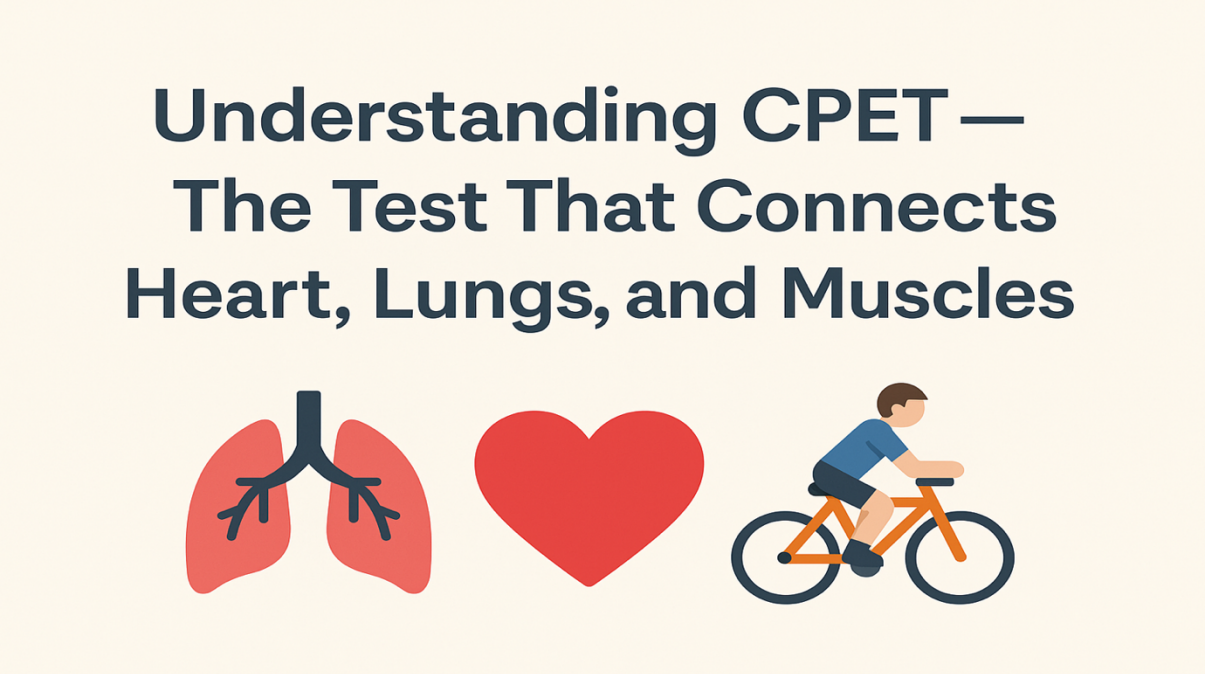

🩺 Understanding CPET 🫁❤️🚴‍♂️📈

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Cardiopulmonary Exercise Testing (CPET) is one of the most comprehensive methods to evaluate how the heart, lungs, and muscles perform together during physical activity. Unlike conventional diagnostic tests done at rest, CPET measures the body's response under controlled exercise conditions. It records parameters such as oxygen uptake (VO_2), carbon-dioxide output (VCO_2), ventilation (VE), and heart-rate response — providing a clear picture of how efficiently oxygen is delivered and utilised.

Why CPET Matters

CPET helps identify which physiological system limits exercise performance — cardiac, pulmonary, or muscular. It is particularly useful in:

- Assessing unexplained exercise intolerance or dyspnea
- Pre-operative risk evaluation
- Cardiac and pulmonary rehabilitation follow-up
- Monitoring chronic respiratory or metabolic disorders
- Performance analysis in sports and rehabilitation settings

How It Differs from a Routine Stress Test

A standard treadmill or stress test mainly tracks ECG changes and heart rate during exercise. While useful, it provides only a partial view.
CPET goes further. It adds gas-exchange analysis and ventilatory efficiency, turning a simple exercise session into a detailed physiological assessment. This allows clinicians and researchers to quantify functional capacity with much greater accuracy.

Current Clinical Relevance

Globally, CPET is recognised as the gold standard for functional evaluation. It supports clinical decision-making in:

- Heart failure and cardiomyopathy assessment
- COPD and interstitial lung disease
- Pre-transplant and pre-operative risk stratification
- Pulmonary hypertension work-up
- Sports physiology and performance optimisation
- Long-COVID functional evaluation

By integrating cardiac, ventilatory, metabolic, and muscular information, CPET provides a complete picture of functional limitation and disease burden.

Summary

CPET provides a comprehensive understanding of how the cardiovascular and respiratory systems interact during exertion. It delivers objective, quantifiable data that support accurate diagnosis, personalised treatment planning, and evidence-based decision-making.
In a single test, CPET helps clinicians determine what limits exercise — whether it is the heart, lungs, or muscles — making it one of the most powerful tools in modern cardiopulmonary evaluation.