
New Tool for Designing Personalised Workouts



Researchers say a new digital tool can help clinicians design personalised workouts for patients to prevent heart disease. The EXPERT tool specifies the ideal exercise type, intensity, frequency, and duration needed to prevent a first or repeat cardiovascular event. The study is published in European Journal of Preventive Cardiology.

Surveys have shown that clinicians find it difficult to prescribe exercise programmes appropriate for patients with multiple cardiovascular diseases and risk factors. The European Association of Preventive Cardiology Exercise Prescription in Everyday Practice and Rehabilitative Training (EXPERT) tool generates exercise prescriptions for patients with different combinations of cardiovascular risk factors or cardiovascular diseases.

The tool was designed by cardiovascular rehabilitation specialists from 11 European countries, in close collaboration with computer scientists from Hasselt University in Belgium. "This tool is the first of its kind," said lead author Professor Dominique Hansen, associate professor in exercise physiology and rehabilitation of internal diseases at Hasselt University. "It integrates all the international recommendations on exercise to calculate the optimum training programme for an individual patient. It really is personalised medicine."

EXPERT can be installed on a laptop or personal computer (PC). During a consultation, the clinician inputs the patient's characteristics and cardiovascular risk factors, cardiovascular diseases and other chronic conditions, medications, adverse events during exercise testing, and physical fitness (from a cardiopulmonary exercise test). The tool then generates an exercise prescription for the patient. It includes the ideal exercise type, intensity, frequency, and duration of each session. The advice can be printed out and given to the patient to carry out at home, and reviewed by the clinician in a few months.

EXPERT also provides safety precautions since certain patients are not allowed to do certain exercises. For example a diabetic patient with retinopathy should not do high-intensity exercise, said Prof. Hansen.

"EXPERT provides the exercise prescription a patient needs to meet their particular exercise goals, which should ultimately help them to feel better and reduce their risks of morbidity and mortality. By prescribing an exercise programme that really works patients are more likely to be motivated to continue because they see that it is improving their health," Prof. Hansen added.

Source: [European Society of Cardiology](#)

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