ORIGINAL ARTICLE

Test For Treadmill Pereda

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Abstract:

With this test effort treadmill developed in our clinic, we can study the cardiac performance and health of athletes and active people. Your application offers a selection model for all companies seeking candidates with high fitness. Also useful as a control method to evaluate and control the members of a particular group of policemen, firemen, soldiers, athletes. This test gives much importance to the effort to keep the test and assess cardiac and blood pressure recovery period post. This method controls outdoor avoided. It also favors the intimacy of the subject studied.

KEYWORDS:

policemen, firemen, soldiers, athletes.

1.INTRODUCTION:

This test is primarily assessed health status, but also the physical condition by setting minimum levels that must be met to qualify for certain occupations. The test indirectly sets the maximum VO2 subject under examination.

Study values VO2 and anaerobic threshold applicable to the general population.
Is carried out with 15 active members of the Fire Department of the Autonomous Community of La Rioja.

MATERIAL

His execution is carried out on treadmill brand "Norditrak" with maximum speed of 20 kmtrs / h maximum lift of 16%. During the test the patient is monitored. Before the test is required perform ECG monitoring and blood pressure check.

SUBJECT

Discard this test to the following people:

Blood pressure of 140-90 and above.
Greater than 85 p / m heart rate
Previous infarcted
Overweight people.
People with prosthetic hips or knees.

Website : http://reviewofprogress.org/

People with herniated discs.
People over 55
People not used to the race
People with FC higher than 140p / m at the end of Phase I
People with systolic pressure above 170 at the end of Fase I

COMPLETION TEST

The Fire Department of the Autonomous Community of La Rioja send us a 15 working professionals whose average age is 48 years (the youngest 38 and the oldest 59)

phase I

It starts with an initial slope of 4% and a rate of 5 kmtrs / h. At this stage the patient performs the test walking and held for 1 minute after which the speed to 6 kmtrs / h rises. for two minutes remaining. Increases again to 7 kmtrs speed / h remaining two minutes after which the speed 8kmtrs / h keeping there for four minutes rises.
With this is sufficient for the patient's heart rate is between 100-130p / m.

FaseII

From that moment increases one Ktr / mto so that this phase begins with 9Kmrs / h while maintaining the inclination of 4%. The test concludes with the total exhaustion of the patient.

FaseIII

Calm returns are slowing down to half the speed achieved. For example, if the patient reaches 12Kmtrs / h the shall reduce 6Kmtrs / h keeping a minute and then decreasing progressively until the initial 1Kmtr/mto 5Kmtrs speed / h.

TEST CRITERIA TO STOP.

Generals for any stress test: arrhythmia, no elevation above fc 120p / m, no elevation of systolic blood pressure or decrease it, increase in diastolic above 95 ta, extreme fatigue, precordial pain or patient discomfort.

In addition to these, specific to this test:

Superior to 200p / m heart rate
Inability to continue in Phase III
Maintenance 140/pm than Phase III heart rate after three minutes.

RESULTS

Phase I

Young subjects and patients under 55 who do not meet in July kmtrs / h Phase I should be referred to general and cardiac echocardiography study . Those who complete it but not be able to initiate Phase II programs are excluded from physically demanding .

Phase II

10Kmtrs / h .   They can not be included in a program of physical demand.
11-12Kmtrs/h.   They can not be included in a program of physical requirement or must be conditioned for it.
13 - 16Kmtrs / h .   Fitness .
16 - 18Kmtrs / h .   Good shape .
18 - 20Kmtrs / h .   High level .

Phase III

11 - 12Kmtrs / h . Maintaining than 140/pm Phase III heart rate after three minutes . If you have to stop the test and after three minutes of rest in the FC stretcher is not reduced to 120p / m, may be due to pathology test is considered positive. Exploration is suggested by Echo Doppler .

13 - 20Kmtrs / h . Maintaining than 140/pm Phase III heart rate after three minutes . If after three minutes of rest in the FC stretcher is not reduced to 120 the test is considered positive and Eco Doppler scan is suggested. If lying the FC is reduced below 120 p / m the test is negative .

INDIRECT VALUES OF VO2 / Mltrs/mto/Kg.

These results can be applied to the population.

6 Kmtrs/h	24	11 Kmtrs/h	40	16 Kmtrs/h	57
7 Kmtrs/h	27	12 Kmtrs/h	44	17 Kmtrs/h	60
8 Kmtrs/h	30	13 Kmtrs/h	47	18 Kmtrs/h	64
9 Kmtrs/h	34	14 Kmtrs/h	50	19 Kmtrs/h	67
10 Kmtrs/h	37	15 Kmtrs/h	54	20 Kmtrs/h	70

LACTATE THRESHOLD (UL) INDIRECT

These results can be applied to the population.

P/M	UL	P/M	UL	P/M	UL	P/M	UL
160 --------- 149		170-------160		180---------169		190 ------------180	
162 --------150		172--------162		182---------172		192------------183	
165 ----------153		175 -------164		185---------174		195-------------187	
170----------- 160		177--------167		187---------177		200-------------189	

RESULTS VOLUNTEER FIRE DEPARTMENT "CEIS RIOJA"

14 Firefighters "CEIS Rioja".

Mean age	50	years
Younger	37	years
Older	59	years
Average height	175	cmtrs
Higher	186	cmtrs
Shorter	164	cmtrs
Average weight	79	Kgs
More weight	110	Kgs
lowest weight	61	Kgs
Average time in minutes	17,71	
More minutes	21	
Less minutes	15	
Average speed	13,67	Kmtrs/h.
Faster	18,5	Kmtrs/h
Slower	10	Kmtrs/h
Average VO2	49,37	
Higher	67	
Lower	37	

Rating.

For a group, with a mean of 50 years an average result of VO2 50 It's good to above-average population (35-40)

CONCLUSIONS.

This test is easy to perform. Vo2 It enables the convenient and easy way. Groups can be evaluated and determine, in addition to good health, scales of selection for opposition forces and security forces. To participate in athletic events or revenue sports academies.The test is suitable for active people without previous pathologies.

Tables vo2 and offer general lactate threshold values to assess the level of the athlete. It is a very useful tool for the clinician. Valuations are indirect. For accurate assessment, testing with lactic acid.

BIBLIOGRAPHY

1.Fletcher GF, Balady GJ, Amsterdam EA, Chaitman B, Eckel R, Fleg J, et al. Exercise standards for testing and training: A statement for health professionals from the American Heart Association. Circulation 2001; 104: 1694-740.
2.Nishime EO, Cole CR, Blackstone EH, Pashkow FJ, Lauer MS. Heart rate recovery and treadmill exercise score as predictors of mortality in patients referred for exercise ECG. J Am Med Assoc 2000; 284: 1392-8.
3.Kavanagh T, Mertens DJ, Ham LF, Beyene J, Kennedy J, Corey P, Shephard RJ. Peak oxygen intake and cardiac mortality in women referred for cardiac rehabilitation. J Am Coll Cardiol 2003; 42: 2139-43.
4.Cole CR, Blackstone EH, Pashkow FJ, Snader CE, Lauer MS. Heart-rate recovery immediately after exercise as a predictor of mortality. N Engl J Med 1999; 341: 1351-7.
5.Stelken AM, Younis LT, Jenison SH. Prognostic value of cardiopulmonary exercise testing using percent achieved of predicted peak oxygen uptake for patients with ischemic and dilated cardiomyopathy. J Am Coll Cardiol 1996; 27: 345-52.
6.Laukkanen JA, Kurl S, Salonen R, Rauramaa R, Salonen JT. The predictive value of cardiorespiratory fitness for cardiovascular events in men with various risk profiles: a prospective population-based cohort study. Eur Heart J 2004; 25: 1428-37.
7.Aktas MK, Ozduran V, Pothier CE, Lang R, Lauer MS. Global risk scores and exercise testing for predicting all-cause mortality in a preventive medicine program. J Am Med Assoc 2004; 292: 1462-8.
8.Wasserman K, Hansen JE, Sue DY. Principles of exercise testing and interpretation. 3a ed. Philadelphia: Lippincott Williams & Wilkins, 1999Links
9.Mancini DM, Eisen H, Kussmaul W, Mull R, Wilson JR. Value of peak oxygen consumption for optimal

timing of cardiac transplantation in ambulatory patients with heart failure. Circulation 1991; 83: 778-86.

10.Milani RV, Lavie CJ, Mehra MR. Cardiopulmonary exercise testing: How do we differenciate the cause of dyspnea? Circulation 2004; 110: e27-e31.

11.Stelken AM, Younis LT, Jenison SH. Prognostic value of cardiopulmonary exercise testing using percent achieved of predicted peak oxygen uptake for patients with ischemic and dilated cardiomyopathy. J Am Coll Cardiol 1996; 27: 345-52.

12.Laukkanen JA, Kurl S, Salonen R, Rauramaa R, Salonen JT. The predictive value of cardiorespiratory fitness for cardiovascular events in men with various risk profiles: a prospective population-based cohort study. Eur Heart J 2004; 25: 1428-37.