



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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بالرسالة صفحات

لم ترد بالأصل

B1.1.V1

# ***Low intensity laser therapy versus cardiac Rehabilitation program for ischemic heart disease patients***

Thesis

Submitted for partial fulfillment of the requirements of  
the Doctoral Degree in Physical Therapy

By

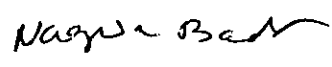
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2001*

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سُبْحَانَكَ لَا إِلَهَ إِلَّا أَنْتَ  
أَنْتَ أَنْتَ الْعَلِيُّ الْحَكِيمُ

صدق الله العظيم

سورة البقرة آية ٢٢

# **Low intensity laser therapy versus cardiac Rehabilitation program for ischemic heart disease patients**

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## ***Abstract***

The aim of this study is to investigate the effect of laser therapy as a new trend for improving L.V. function versus C.R in patients with IHD to increase their exercise capacity and to avoid further progression of the disease. Sixty patients Aged 45-70 years old were selected form National Heart institute- Imbaba- Cairo. They were randomly assigned into 4 groups, each consisted of 15 patients. First group received laser therapy, second group enrolled in an exercise training program, third group received laser therapy and exercise training, and the fourth groups received their medication only. Assessment was done by cardiopulmonary stress exercise test, 24 hour holter monitoring, and dobutamine stress echo cardiography before and after 3 months of the study. Data were collected and calculated and the results showed significant increase in peak oxygen consumption, significant increase in R-R intervals of the 24 hour holter monitoring, and significant improvement in the results of dobutamine stress echocardiography of the 3 studied groups, whether there was no significant results in the control group also there were no significant results in between the 3 studied groups 50 we concluded that the laser therapy, cardiac rehabilitation and the laser therapy combined with cardiac rehabilitation are three effective methods in the rehabilitation of ischemic heart disease patients.



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### *List of abbreviation*

<b>%</b>	<b>Percent</b>
<b>°C</b>	<b>Degree centigrade</b>
<b>2D</b>	<b>Two dimensional</b>
<b>3D</b>	<b>Three Dimensional</b>
<b>ACE</b>	<b>Angiotensin converting Enzyme</b>
<b>ADP</b>	<b>Adenosine diphosphate</b>
<b>ATP</b>	<b>Adenosine triphosphate</b>
<b>A-V<sub>O2</sub></b>	<b>Arterio- venous</b>
<b>C.R</b>	<b>Cardiac rehabilitation</b>
<b>CABG</b>	<b>Coronary artery bypass graft</b>
<b>CAD</b>	<b>Coronary artery disease</b>
<b>cm</b>	<b>Centimeter</b>
<b>Cm<sup>2</sup></b>	<b>Centimeter sequare</b>
<b>CO<sub>2</sub></b>	<b>Carbon dioxide</b>
<b>Ea</b>	<b>Higher energy level</b>
<b>Eb</b>	<b>Lower energy level</b>
<b>ECG</b>	<b>Electrocardiogram</b>
<b>Fig</b>	<b>Figure</b>
<b>HDL</b>	<b>High density lipoprotein</b>
<b>He-Ne</b>	<b>Helium Neon</b>
<b>Hertz</b>	<b>Hz</b>
<b>HR</b>	<b>Heart rate</b>
<b>HRV</b>	<b>Heart rate variability</b>
<b>IHD</b>	<b>Ischemic heart disease</b>
<b>I-R</b>	<b>Infra red</b>
<b>J/cm<sup>2</sup></b>	<b>Joule per centimeter sequare</b>
<b>Kg</b>	<b>Kilogram</b>
<b>L.V</b>	<b>Left ventricle</b>

<b>Laser</b>	<b>Light amplification of stimulated emission of radiation</b>
<b>LDL</b>	<b>Low density lipoprotein</b>
<b>LLLT</b>	<b>Low level laser therapy</b>
<b>Mean R-R</b>	<b>Mean of normal to normal R-R intervals</b>
<b>MI</b>	<b>Myocardial infarction</b>
<b>min</b>	<b>Minute</b>
<b>mm</b>	<b>Millimeter</b>
<b>mm Hg</b>	<b>Millimeter mercury</b>
<b>mw</b>	<b>Milliwatts</b>
<b>NCEP</b>	<b>National cholesterol Education program</b>
<b>nm</b>	<b>Nanometer</b>
<b>NN</b>	<b>Normal to normal</b>
<b>NN 50</b>	<b>The number of interval differences of successive NN intervals greater than 50ms</b>
<b>NN 50%</b>	<b>The percentage of number of interval differences of successive NN intervals greater than 50ms</b>
<b>o</b>	<b>Degree</b>
<b>O<sub>2</sub></b>	<b>Oxygen</b>
<b>PTCA</b>	<b>Percutaneous transluminal coronary angioplasty</b>
<b>RMSSD</b>	<b>The square root of the mean squared differences of successive NN intervals.</b>
<b>rpm</b>	<b>Round per minute</b>
<b>SDNN</b>	<b>The standard deviation of normal to normal intervals</b>
<b>TEM</b>	<b>Transverse electromagnetic mode</b>
<b>TENS</b>	<b>Transcutaneous electroneurostimulation</b>
<b>Vab</b>	<b>Energy bundle or photon</b>
<b>W</b>	<b>Watt</b>
<b>Yrs</b>	<b>Years</b>
<b>μg</b>	<b>Microgram</b>

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