Results: Data are presented as relative changes from baseline. Pre-PCI, home- 
based exercise training decreased circulating VEGF-levels in the ex group (-
7±12%), while in the ctrl group VEGF-levels were increased (9±21%), p<0.005. 
The average non-significant increase in SDF-1 levels in ctrl patients, as compared 
to ex patients, where the levels remained unchanged (3±9% non-ex 0±9% ex, 
p<0.06). In the ctrl group the increased VEGF-levels seen pre-PCI were seen to 
grow greater than baseline levels after PCI, while in the ex group PCI did not 
seem to have any additional effect (at 3 months 4±21% ctrl, 4±19% ex, p<0.05, 
at 6 months, 0±21% ctrl, 5±19% ex, NS). PCI did not affect SDF-1 levels neither 
in controls nor in exercised individuals (at 3 months 3±12% ctrl, 3±10% ex, p<NS 
and at 6 months 3±12% ctrl, 2±18% ex, NS). Neither exercise nor PCI affected 
levels of NTproBNP, TNT or copeptin.

Conclusions: Exercise training in patients with stable coronary artery disease 
decreases circulating angiogenic cytokines, possibly due to a decreased ischemic 
burden. PCI decreases levels of VEGF in non-trained individuals, while in ex-
cise trained individuals, it provides no additional effect. SDF-1 was not affected by 
PCI. Exercise in patients with stable coronary artery disease does not increase 
markers of cardiac dysfunction, suggesting that it is a safe therapeutic interven-
tion in these patients.

P3396 | BENCH
Habitual physical activity seems to be related with higher serum testosterone levels and improved insulin resistance in elderly diabetic individuals: IAIRA study

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Background: Diabetes mellitus induces several structural and functional changes 
in cardiovascular system. Physical activity has shown beneficial effects on pri-
mary and secondary prevention of cardiovascular (CVD) diseases due to the im-
provement of mechanical properties of the arteries, the muscle tone and neuro-
endocrine activation; although those effects have not been evaluated in elderly 
population with increased cardiovascular risk. In this study we aimed to evaluate 
the effect of a habitual physical activity on metabolic profile and testosterone 
levels in seniors diabetic individuals, inhabitants of Ikaria island, a place with high 
life expectancy rates.

Methods: We enrolled 752 individuals aged 65 to 100 years, permanent in-
habits of Ikaria island. (49% men, mean age 77±8). Among several socio-
demographic, biochemical, lifestyle and dietary characteristics, CVD factors, physi-
cal activity status was evaluated IPAQ, total serum testosterone levels were mea-
sured and HOMA-IR was calculated for the evaluation for insulin resistance.

Results: Under 221 subjects (55% males, mean age 76±6) were defined as diabetics 
according to their history and fast blood glucose levels. Those physically active 
were younger, less obese, less hypertensive, showed higher rates of hypercholes-
terolemia, smoking habits, lower prevalence of cardiovascular disease, higher 
total testosterone levels and lower HOME (all p<0.05); while they showed no 
significant difference on LDL/HDL ratio creatinine clearance and nutrition habits.

Linear regression analysis revealed that physical activity status was inversely re-
lated to HOME levels (B=−2.268±0.758, p=0.03), after adjustment was made for 
gender, age, hypercholesterolaemia, obesity, hypertension and hours night sleep.

Furthermore, physical activity status was inversely related to serum testosterone 
levels (p<0.05), after the same adjustment were made, only in men.

Conclusions: Long term adherence to a physically lifestyle seems to mediate 
the adverse effect of diabetes mellitus on cardiovascular risk in elderly individuals, 
prolonging insulin resistance and serum testosterone levels. Those results may 
partly explain the link between lifestyle habits with longevity.

P3397 | SPOTLIGHT 2013
Visceral fat mass is associated with daily physical activity, leg 
skeletal muscle mass and fiber intake in healthy men

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Background: Inappropriate food intake and decrease in physical activity can lead 
to metabolic syndrome, which is represented by accumulation of visceral fat. How-
ever, it has not been unknown what quantity and quality of food intake and physi-
cal activity is associated with accumulation of visceral fat.
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Purpose: Physical activity is able to reduce cardiovascular morbidity and mortality. The mechanisms may be mediated in a number of ways including an enhancement of endothelial function. We investigated the effects of physical training on plasma levels of nitrate (NO) and vascular responses induced by sympathetic stimulation and acetylcholine.

Methods: Sixteen male New Zealand white rabbits were exercised during 6 weeks following a chronic exercise protocol on treadmill (trained group) and another twelve rabbits (control group) were stabulated during the same period. When the chronic exercise program was finished, rabbits were anaesthetized, killed and common carotid arteries were dissected. Arterial segments (3 mm long) were mounted for isometric recording of tension in organ baths containing Krebs-Henseleit solution. Electrical field stimulation (EFS, 4Hz, 20V, 0.25 ms duration for 30 s) was provided by a Grass S88 stimulator via two platinum electrodes positioned on each side and parallel to the axis of the arterial segment. Blood samples were drawn from the ear artery before anaesthesia for determination of plasma nitrite plus nitrate (NOx) using the Griess reaction.

Results: Acetylcholine (3x10-6M) produced more relaxation in control group (Emax values: 93.8±2.1 for control group vs 83.5±3.2 for training group, n=10; m=10). L-Arginine methyl ester nitro oxide reduced the relaxation to acetylcholine in both trained (pD2 = 6.7±0.2, n=5; p<0.01) and control rabbits (pD2 = 6.9±0.2, n=5; p<0.01). The reduction of maximum effect by L-NANe was greater in control rabbits (44% vs 34%, p=0.05). The contracile responses to EFS were abolished by tetrodotoxin (10-6M), guanethidine (10-6M) and praxozin (10-6M) thus indicating that the contracile effect is due to nonadrenergen action on α1 adrenergenes. EFS (1, 2 and 4 Hz) induced contracile was greater in trained groups. L-NAME 10-4M enhanced the contraciles elicited by EFS in both groups with the similar magnitude. Plasma levels of NOx were similar in both control and trained groups (67±21 mM vs 62±20 mM, n=11; p>0.05).

Conclusions: Whether NO plasma levels were similar in the two groups, trained rabbits show a significant decrease in the NO component, sensitive to L-NANe, induced by acetylcholine but not by sympathetic stimulation.