including age, gender and pre-existing coronary risk factors were prospectively collected and validated at time of exercise testing. The DTS was computed immediately after exercise testing by trained cardiologists using standard formula. DTS score ≤5 was deemed low risk, 4 to 10 as intermediate risk, and <11 high risk. MPI was reported by board certified nuclear cardiologists.

**Results:** The study cohort consisted of 6298 patients (mean age 55±11, 38% females and male mean age 57.9±10). There was heterogeneity in the distribution of coronary risk factors; while both genders were similarly matched for diabetes (20% vs 19%) and family history of premature CAD (1% vs 1%), there were more men who had dyslipidemia (60% vs 61%, p=0.006) and history of tobacco smoking (22% vs 2%, p<0.001), while more women had hypertension (54% vs 49%, p<0.001). The association between DTS and risk factors was cumulative; patients who had 3 risk factors or more were likely to have lower DTS (OR 1.41, 95% CI 1.29-1.55, p<0.001) compared to patients with no risk factors. More women were at intermediate DTS risk compared to men (18% vs 9%, p=0.001); both genders were well matched in low (82% vs 91%) and high (0.2% vs 0.2%) DTS risk groups. Female gender (beta=-2.152, p<0.001) and diabetes (beta=-0.968, p<0.001) were strong independent predictors of DTS while the female gender independently predicted the presence of obstructive coronary artery disease (OR 4.09, 95% CI 3.2-5.3, p<0.001), after correcting for age, risk factors and DTS.

**Conclusion:** In this large cohort of patients who are referred for exercise MPI, there were significant associations between pre-existing coronary risk factors and exercise outcome. An intermediate DTS risk score among women significantly predicted the presence of obstructive CAD.

**Background:** Physical inactivity is widely known to be an independent and avoidable risk factor for the development of cardiovascular disease by affecting endothelial function, which plays a key role in atherogenesis. Endostatin, a mediator of angiogenesis with angiostatic effects, was suggested to be influenced by endostatin levels in both female and male athletes and controls whereas the extent of endostatin increase was comparable in both groups and sexes and varied between 23 to 27%. However, significance gets lost when the performance is plugged in as covariate. After 20 min. of relaxation, endostatin levels decreased in all participants whereby the drop was more pronounced in controls (16-18%).

**Conclusion:** Acutely induced physical strain leads to an increase in serum endostatin levels in both groups and sexes and varied between 23 to 27%. However, significance gets lost when the performance is plugged in as covariate. After 20 min. of relaxation, endostatin levels decreased in all participants whereby the drop was more pronounced in controls (16-18%) compared to athletes (7-9%). Baseline endostatin levels positively correlated with haemoglobin, haematocrit, thrombocytes, erythrocytes, sodium and blood glucose but only in athletes, except for a correlation of endostatin and erythrocytes which was also observable in non-athletes.

**Conclusion:** The study cohort consisted of 6298 patients (mean age 55±11, 38% females and male mean age 57.9±10). There was heterogeneity in the distribution of coronary risk factors; while both genders were similarly matched for diabetes (20% vs 19%) and family history of premature CAD (1% vs 1%), there were more men who had dyslipidemia (60% vs 61%, p=0.006) and history of tobacco smoking (22% vs 2%, p<0.001), while more women had hypertension (54% vs 49%, p<0.001). The association between DTS and risk factors was cumulative; patients who had 3 risk factors or more were likely to have lower DTS (OR 1.41, 95% CI 1.29-1.55, p<0.001) compared to patients with no risk factors. More women were at intermediate DTS risk compared to men (18% vs 9%, p=0.001); both genders were well matched in low (82% vs 91%) and high (0.2% vs 0.2%) DTS risk groups. Female gender (beta=-2.152, p<0.001) and diabetes (beta=-0.968, p<0.001) were strong independent predictors of DTS while the female gender independently predicted the presence of obstructive coronary artery disease (OR 4.09, 95% CI 3.2-5.3, p<0.001), after correcting for age, risk factors and DTS.

**Conclusion:** In this large cohort of patients who are referred for exercise MPI, there were significant associations between pre-existing coronary risk factors and exercise outcome. An intermediate DTS risk score among women significantly predicted the presence of obstructive CAD.

**Purpose:** Exercise testing and training / From physical activity to exercise training

**Methods:** 628 patients, both gender, aged between 18 and 65 years were recruited. We excluded those with viral co-infections, cardiac, respiratory, motor and/or cognitive impairment, and body mass index <18 or >35 kg/m². 155 patients were eligible, 74 women and 81 men. The 6-MWT was performed according to the guidelines of the American Thoracic Society. Prior to the start of the tests and shortly after completion, were measured heart rate (HR), respiratory rate, blood pressure and peripheral oxygen saturation. For the multiple regression analysis (p<0.05) were also considered values of lipid profile, blood glucose, creatinine, CD4, viral load, smoking, time of diagnosis and medication use and anthropometric variables. To validate the reference equation, 20% of the men and women's samples were randomly selected. Data from 124 patients were employed to develop the reference equation, while data from 31 patients were used to validate the proposed equation.

**Results:** The reference equations used to comparison (Enright and Sherril, 1998; Gibbons, 2001; Leana, 2009; Soares, 2011 and Chetta, 2006) underestimated or overestimated the distance covered by patients HIV-infected. A multiple regression analysis resulted in a single equation. There were correlation between the proposed benchmark and patients HIV-infected. A multiple regression analysis resulted in a single equation. There were correlation between the proposed benchmark and patients HIV-infected. After application of the proposed equation, it was found that it could predict 100% of predicted distance covered by patients HIV-infected.

**Conclusion:** We conclude that the application of non-specific reference equation for this population leads to over- or underestimation of walked distance. Moreover, the proposed equation was more effective in predicting the distance predicted for patients HIV-infected.

**FROM PHYSICAL ACTIVITY TO EXERCISE TRAINING**

**Cardiologist procedure volumes in Dutch cardiology practice**

J.A. Lipton, A.M. De Vos, L. Van Erven, E.A. Dubois

**Methods:** Retrospective analysis of data reported to the Dutch Association for Cardiology during scheduled 5-yearly audits of cardiologic practices between 2003 and 2011. The audits include self-reported procedure volumes over the preceding year. Data were anonymized before analysis. Cardiologists reporting performing at least one procedure were included in the analysis. Procedures were evaluated with transthoracic echo, echocardiography, pacemaker and ICD (implantable cardiac defibrillator) implantations, cardiac catheterization and PCI (percutaneous coronary intervention).

**Results:** Reported procedural volumes by 396 (80%) of registered Dutch cardiologists are displayed in the table. The number of cardiologists performing a procedure varied from 13% for ICD implantation to 79% for transthoracic echo-cardiography.

**Conclusion:** Procedure rates differ greatly between cardiologists in the Netherlands. The majority of the cardiologists meet the (proposed) benchmarks, however more research is needed to determine why benchmarks are not achieved by 11-50% of the cardiologists.