

## **EFFECT OF CAFFEINE INGESTION ON EXHALED NITRIC OXIDE MEASUREMENTS IN NORMAL SUBJECTS**

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### Introduction

Exhaled nitric oxide (eNO) may be used as a biomarker for airway eosinophilic inflammation and is used in asthma management. Caffeine consumption has been associated with changes in eNO concentrations with divergent results. Aim of our study was to determine the effect of caffeine consumption on the eNO.

### Materials and methods

Healthy, non-regular caffeine users (12 women, 12 men, 20 - 52 years) were included. eNO, heart rate (hf) and lung function were measured before and after caffeine ingestion (170mg/100ml) at different times: before (t0), direct after (t1), 30 min (t2), 60 min (t3) and 120 min (t4) after drinking. eNO was measured with different flow rates: 50, 300 mL/s (NIOX Flex, Aerocrine, Sweden). Spirometry was performed due to ATS criteria.

### Results

Mean eNO<sub>50</sub> and eNO<sub>300</sub> showed a decrease at t1 (eNO<sub>50</sub>: t0: 15.2 ± 8.9 ppb, t1: 13.3 ± 8.9 ppb; t4: 14.5 ± 9.9 ppb; eNO<sub>300</sub>: t0: 4.4 ± 2.5 ppb; t1: 3.6 ± 2.0 ppb, t4: 3.9 ± 2.6 ppb). Mean FEV<sub>1</sub> at t0 was 3.9 ± 0.9 L and showed no change (t1: 3.9 ± 0.5 L, t4: 4.0 ± 1.1 L). Mean hf at t0 was 69.7 ± 8.6 min<sup>-1</sup> and rised to 73.8 ± 11.8 min<sup>-1</sup> (t1). It returned at t4 to 69.7 ± 12.5 min<sup>-1</sup>. There was no statistical significant difference.

### Discussion

Short after consumption a caffeine drink we see a trend to decreased eNO concentrations and a parallel trend to increased hf in healthy subjects. Significance of these findings in asthmatic patients must be studied.