Introduction  Autonomic Nervous System allows a proper response to different environmental stimuli and is crucial for worker to adapt to physical effort and psychological stress i.e. shift-work, environmental temperature changes, long-lasting gravitational stimulus, physical demand.

Methods  ECG, beat-by-beat Blood Pressure and Respiration are recorded while supine and during gravitational stimulus (75°Head-up tib). Sinus Arrhythmia and Valsalva Manoeuvre provide the relationship between respiratory activity and heart rate and the integrity of baroreceptors functioning. Hyperventilation, mental arithmetic, exposure to noise or occupational pollutants may also be used.

ECG and BP are recorded during working and sleeping time over 24 hours or more.

Spectral analysis provides indexes of cardiovascular autonomic control. From RR variability, Low Frequency (0.01–0.15 Hz, LF/HF) and High Frequency (0.15–0.4 Hz, HF) oscillatory components are indexes of cardiac sympathetic and vagal modulation, respectively. LF/HF quantify the instantaneous cardiac sympa-tho-vagal tone. From systolic arterial pressure (SAP) variability, Low Frequency oscillatory component (0.1–0.15 Hz, LF/SAP) is an index of vascular sympathetic modulation. Baroreflex sensitivity are assessed in the time (BRSeq) and frequency (tLF) domain.

Symbolic analysis of heart period may furnish additional non-linear tools to quantify the sympa-tho-vagal modulation to the heart.

Results  In susceptible workers, triggers involving autonomic nervous system, potentially present in the work environment (mental, visual, visceral or or-thostatic stress) may promote neuro-mediated syncope or orthostatic intolerance syndromes.

Hypertensive workers show an early cardiovascular sympathetich predominance with 24 hour sympatho-vagal balance impairment.

In healthy shift workers a blunted circadian oscillations of heart rate and LF/HF during morning and night shift may represent a possible early sign of misadaptation to shift work in absence of any disease.

Discussion  The assessment of individual cardiovascular autonomic profile in clinical laboratory and during working activity may help prevention of cardiovascular disease and promote health and safety at work by a ‘Precise Medicine’ approach.