The positive characteristics of the wood known as “the Queen of the Alps” (Stone or Cembran Pine; lat.: pinus cembra) has been valued and used for centuries. For the first time this know-how has been subjected to an experimental scientific analysis. In a blind study on 30 healthy adults – under the auspices of an inter-regional research program – scientists of HUMAN RESEARCH evaluated the effects of Stone Pine on stress and the ability to recover.

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**HUMAN RESEARCH**

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Institute and methods

The application of the most modern sensor technologies and evaluation methods of the Human Research Institute (HRI) opens new possibilities in the measurement of stress and recovery in the normal daily routine, whether at work, during spare time or during sleep. The measuring method repertoire used and constantly further developed at the Institute makes it possible (among other things) to observe the autonomous nervous system as well as functions of the brain-stem in a non-invasive manner.

The heart frequency is the most important control variable in a complex regulatory network, in which heart, blood circulation, respiration, temperature, metabolism and psychosomatic influences are involved. This gives the heart frequency its typical temporal structure, which becomes measurable as heart frequency variability.

Experimental procedure

A balanced, crossed repetitive measuring design was carried out under psychological and physical stress situations in the laboratory over 24 hours in everyday life situations of the test subjects. With the help of high resolution electrocardiogram recorders the heart frequency and its variability, vegetative parameters and the biological rhythms characteristic of recovery were investigated. Psychometric methods were implemented for the measurement of wakefulness, vigilance and subjective sleep quality.

Stress and recovery ability in Stone Pine room

For the battery of tests carried out in the lab significant differences were found between the quality of recovery of subjects spending time in Stone Pine rooms and those in identically arranged “wood imitation” rooms. This expressed itself in a lower heart rate during physical and mental stress situations and following rest phases and/or during an accelerated autonomic recovery process. The heart frequency of the test subjects in the wood imitation room is dependent on the atmospheric pressure. This meteorosensitivity is a sign of an unstable circulation. In the Stone Pine room the heart rate seems to be independent of the atmospheric pressure.