

# Acupressure "Significantly Influences" the Cardiovascular System

## THERAPY CREATES CHANGES IN HEART RATE, BLOOD FLOW AND ARTERIAL PRESSURE

Although not as well-known as acupuncture, acupressure is rapidly gaining acceptance as a safe, non-invasive form of care. The technique itself is very similar to acupuncture. Instead of inserting needles, acupressure involves using the fingers, thumbs, palms, heels of the hand and elbows to apply pressure and stimulate specific points along the meridians (or energy channels) of the body.

Like acupuncture, recent studies have shown acupressure to be effective for a variety of conditions, from easing postoperative pain and morning sickness to vomiting and improving the quality of one's sleep. Unfortunately, the mechanism responsible for acupressure's success in relieving pain remains – like acupuncture - largely unknown.

To see what effect acupressure may have on the cardiovascular system, a pair of researchers from the Faculty of Health Sciences in Linköping, Sweden conducted a study of 24 healthy male volunteers between the ages of 20 and 36. Their results, which appear in a recent issue of *Complementary Therapies in Medicine*, showed marked changes in arterial pressure, heart rate and the amount of blood flow to the skin in those receiving acupressure, leading the researchers to conclude that non-invasive stimulation techniques may be "low-risk and cost-effective" forms of care.

The subjects were divided into three groups of eight. One group received active stimulation consisting of pressure on acupoints; the second received active stimulation via stroking along the meridians; and the third received a control stimulation. Stimulation was performed by way of a 15-centimeter long dental instrument with a two-millimeter ball-point at each end.

In the pressure group, 24 classical acupoints (KI 7; KI 3, PC 9; PC 7; LR 8; LR 3; LU 9; SP2; SP 3; HT 9; HT 7; and LU7, bilaterally) were stimulated in order using firm pressure and a gliding movement across the acupoint. In the stroking group, the acupoints of 13 meridians were stimulated by stroking with the tool along the meridians in the direction of the flow (according to traditional Chinese medicine). The stimulation in the control group was achieved with very light pressure along 24 non-acupoints within an inch of the acupoints in the pressure group.

A variety of measurements were taken while the subjects were stimulated, including heart rate, systolic arterial pressure, diastolic arterial pressure, mean arterial pressure and skin blood flow. Data on skin blood flow, arterial pressure and heart rate were recorded once every minute, from 20 minutes before stimulation to 30 minutes after. All measurements were taken by a researcher who was blinded to the type of treatment the subjects received.

Results of the treatment showed dramatic cardiovascular changes in the pressure group. Heart rate, for instance, decreased an average of seven beats per minute in the group receiving acupressure, compared to five beats for the stroking group and just one beat per minute in the control group. Similar changes in arterial pressure and skin blood flow were seen in the pressure

group, but not in the stroking or control groups.

Table I: Averaged readings of pressure, stroking and control groups before and after stimulus. Differences between averages have been calculated to represent changes according to the type of stimulation received.

Variable	Stimulus	1-20 min. before stimulus	1-30 min. after stimulus	Change
Systolic arterial pressure, mm Hg	pressure	130	124	-6.0
	stroking	127	127	0.0
	control	120	123	+2.4
Diastolic arterial pressure, mm Hg	pressure	75	68	-6.8
	stroking	72	73	+0.6
	control	71	71	+0.3
Mean arterial pressure, mm Hg	pressure	93	87	-6.1
	stroking	91	91	0.0
	control	87	89	+1.1
Heart rate, beats/min.	pressure	65	58	-6.9
	stroking	63	58	-4.9
	control	69	68	-1.3
Skin blood flow, arb. units	pressure	29	25	-4.0
	stroking	24	29	+5.1
	control	31	31	-1.0

Based on their observations, the researchers concluded that applying pressure to acupoints "can significantly influence the cardiovascular system." Non-invasive stimulation techniques such as acupuncture, they believe, "could be a low-risk and cost-effective treatment," particularly in areas where acupuncture needles are difficult to obtain or where diseases such as HIV and hepatitis – which can be spread by using unsterilized needles – are rampant. They also called for increased research concerning the effects of pressure on acupoints, especially any effects acupuncture may have on the autonomic nervous system.

### References

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