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ONE ARM EXERCISE INDUCES SIGNIFICANT INTER-ARM

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Objectives This study is designed to investigate the inducing effect of one-arm exercise on inter-arm blood pressure difference (IAD).

Methods 50 healthy young subjects were included in the study. 3 min exercises of the right arm elbow flexion and extension were performed. The bilateral brachial blood pressure (BP) was simultaneously measured with two automatic BP measurement devices before (basic) and immediately (0), 5, 10, 15, 20 and 30 min after exercise. The absolute difference in systolic and diastolic BP between the left and right BP equal or over 10 mm Hg was recognised as sIAD and dIAD.

Results The baseline data of the SBP and DBP in left and right arms revealed no significant difference (SBP: 110 ± 10 vs 111 ± 11 mm Hg; DBP: 66 ± 8 vs 66 ± 9 mm Hg, both NS). The prevalence of dIAD was 2% at baseline. However this prevalence increased to 80% at 0 min as right arm exercise induced the right DBP decrease and left DBP increase, and then the prevalence decreased gradually within 30 min recover period. The prevalence of sIAD was zero at baseline and the maximal prevalence was 8% during the 20 min post-exercise period.

Conclusion One arm exercise can lead to significant inter-arm difference in DBP. Any arm exercise should be avoided before BP measurement.