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| Thesis Title | Traumatic Effects on Liver, Muscle and Renal Functions after Match in Thai Boxers |
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ABSTRACT

To investigate the traumatic effects of Thai boxing on liver, muscle and renal functions, nine young professional Thai boxers participated in this study, while control group consisted of ten sedentary subjects. The general physical characteristics and physical fitness were determined. The 24-hour urine collection and blood samples were obtained from the boxers seven days before and twelve hours after match to assess function of the kidneys. The plasma activities of transaminases (AST, ALT), lactate dehydrogenase (LDH), total creatine kinase (CK), and CK-MB were analysed to evaluate liver and muscle injuries. During the match, all activities of the boxers on the ring were recorded by using two video recorders which were perpendicularly settled. Number and severity of impact on each body site were counted and calculated to the form of impact score. The procedures in the sedentary subjects were the same as the boxers except that the sedentary had no competition and did not perform any sport activities at least two weeks before and during the experiment. It was found that plasma levels of AST, ALT, CK, CK-MB and LDH during the preflight period in the boxers were significantly higher than those of the sedentary controls. After

match, only the AST and ALT levels of the boxers were significantly increased. Other plasma enzyme activities were virtually not changed. Consequently, changes in plasma muscle enzyme activities, CK, CK-MB, LDH, were highly correlated with lower limb impact score. Moreover, creatinine clearance was significantly decreased. There were no observable hematuria nor proteinuria.

The results indicate that Thai boxing may cause injuries to certain organ such as liver and kidneys, or may occur to the muscle if the severity and number of impact is relatively high. Therefore, boxers and coaches should be aware of this possible injury, and necessary measures should be constructed to protect the boxer health.