Kinesiological study of canoe roll.

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Five subjects, consisting of three novices and two more experienced canoeists were filmed with a 16 mm. cine camera at 16 frames a second whilst performing a canoe roll. Each was filmed from five different angles for the duration of one roll which on average lasted two seconds. These frames were traced and the measurements taken from them were represented in graphical form and the comparison between the novices and more experienced subjects was made.

One experienced subject was connected to an electromyograph by grommet unipolar electrodes which were placed on thoroughly prepared skin and waterproofed by latex. The subject then performed several canoe rolls, producing satisfactory e.m.g. results. Attempts were made with limited success to synchronise a cine camera with the e.m.g. An observed point had to be used on the film and the e.m.g. as a subjective synchronisation, the point chosen being as the time the subject's shoulder entered the water. At this point there was a strong burst of synergic muscle activity in the e.m.g. but no apparent movement from the subject.

The results of the e.m.g. were presented in graphical and tabular form and discussed critically. The technique of under-water electromyography is described in some detail as it may be of interest to other workers in physiological and rehabilitation fields.