

tricular dilatation were observed.

To summarize the above, although the case of incomplete right leg block was found often, no other abnormal cardiograph was seen in this study.

12. THE STUDY OF SANITARY CONDITION IN SCHOOL CAMPING OF SUMMER VACATION.

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As summer camping has become popular in the past few years, a survey of sanitation and hygiene of the facilities and participants was conducted during the campings which were sponsored by Tokyo Boy's Camp League (consisting of elementary and junior high schools) for 3 days this year at Hatano Minoge and Miyagino of Hakone in Kanagawa Prefecture respectively.

The baggage of participants weighed 7.5 to 8 kg. in average and the maximum was 17 kg. In general, male campers carried heavier baggage than the female.

The sleeping hours decreased at the camp because the campers go to bed earlier exhausted in the evening of their arrival at the camp, but rise very early in the following morning. Most campers complained constipation, but ate their meals with relish. Although very few complained fatigue during the camping, fatigue remained after the camp was over.

Pre-camp physical examination was not conducted to the satisfactory extent, and there were a few matters to be considered carefully about the first aid material. Furthermore, the maintenance of the area was not satisfactory.

The following were conditions of both inside and outside of the tent observed during the period from 22:00 hours of July 21 to 05:00 hours of July 22, and it was cool at 04:00 hours:

	Outdoor	Indoor
Temperature	20.1—27.1°C.	21.9 —27.4°C.
Humidity	62 —95%	72 —90%
Dry Kata cooling power	5.1—10.0	1.5 — 5.0
Wet Kata cooling power	13.1—20.9	8.9 —11.5
Air stream	0.7— 1.1m/s	0.08— 0.3m/s

At Miyagino, the temperatures measured at 1, 4, 5 and 7 o'clock, were 23—30.2°C outside of the tent, and 22.6—25.6°C inside.

13. ON THE CHANGES OF SPECIFIC GRAVITY AND HEMOGLOBIN OF BLOOD IN SWIMMING.

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Taking 36 women as examinees the change of specific gravity of blood and the

content of haemoglobin due to the swimming was observed with copper sulphate method, at pre-swim period, during swimming and post-swim period. Swimming was conducted 4 hours a day, 2 hours in the morning and another 2 hours in the afternoon.

The specific gravity of the whole blood of the 18 examinees was 1.0518 in average before the swimming and 1.0516 after the three days swimming. The actual increase of the specific gravity was observed on seven of them. The content of the haemoglobin in average decreased from 12.56 g/dl to 12.42 g/dl during the same period.

The rest of 18 examinees underwent the seven days of swimming, and their specific gravity of the blood increased from 1.0514 of the pre-swim period to 1.0524 of the post-swim period. Also the content of haemoglobin changed from 12.58 g/dl to 13.04 g/dl, and showed the increase of 0.46 g/dl.

14. STUDIES ON THE PULMONARY FUNCTIONS OF TUBERCULOUS PATIENTS. I.

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By having 4 healthy men and 20 pulmonary tuberculous patients hold their breath for 30 seconds, the change of breathing curve was observed by Knipping's spirometer, and the following were obtained :

On healthy men :

- 1) The respiratory volume per minute increased in all four cases, but the respiration frequency decreased showing remarkable increase of ventilation amount.
- 2) The amount of oxygen consumption increased in all four cases.
- 3) Oxygen intake rate increased in all four cases.

On tuberculous patients :

- 1) The respiratory volume per minute increased in all 20 cases, and many of the examinees showed increase of the respiratory rate resulting in less increase of ventilation amount as compared with that of the healthy man.
- 2) The amount of oxygen intake decreased in most cases, and even those who increased the intake showed less increase in comparison with that of the healthy men.
- 3) The oxygen intake rate dropped in many cases, and those who showed some increase didn't increase so much as the healthy men did.

Judging from the above, it is learned that increase of respiratory volume is not so effective with tuberculous patients as it is with healthy people.

15. STUDIES ON CARDIO-PULMONARY FUNCTION OF ATHLETES. (The Third Paper)

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At the annual meeting of this society in 1955 it was reported that many of the