

VI. THE ACTIVITIES OF YOUNG CHICKS AFTER THE REMOVAL OF THEIR SEMICIRCULAR CANALS

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In this investigation the activities of young chicks were studied after the removal of their semicircular canals. In one lot of our experimental birds semicircular canals were removed from one side of the head while in the second lot canals were removed from both sides.

The results of our work are set forth in the following summary:

1. When semicircular canals were removed from one side of a chick a forced position or torsion of the head occurred towards the injured side.
2. In all but two cases forced position appeared immediately after the operation. In one subject there was an interval of 11 days between the operation and the onset of torsion and in the other there were intervals of 5 and 3 days. In four instances a recurrence of forced position took place after the head had returned to the normal position.
3. In chicks from 2 to 30 days old forced position usually lasted from 3 to 5 days. With chicks from 6 to 8 weeks old it persisted as long as three weeks.
4. When canals were removed on both sides forced position took place first to one side and later to the other in six cases out of seven. In one instance the head was drawn back in the median plane after the second operation.
5. Whirling movements towards the operated side occurred in all the subjects. In many chicks operated upon one side whirling movements did not persist for long—from 1 to 7 days.
6. In chicks operated upon both sides and also a six week old chick operated upon one side, whirling movements lasted for a number of weeks, and even after these subjects were grown, they could be identified by the sharp turns they made while running.
7. Normal wing positions were altered in operated chicks;

when the birds were suspended by the feet, the wing on the operated side was held up and the other relaxed.

8. Recovery from the effects of the removal of semi-circular canals were found to be more rapid in chicks under three weeks of age than in older ones.