

the permanent teeth are in; resistance to disease is high. The weight is light compared with the height of the growing girl. There is a rapid growth of bones and muscle. There is a change in the blood composition. By this time the brain has ceased to grow in size and weight. The girl has a creative imagination and the higher mental powers are developing. There is a strong sense of rhythm. The emotions are exceptionally strong and self-control weak. The pre-pubescent increase in growth in boys usually occurs one year later than in girls. The lung capacity increases along with the strength of the grip. The brain ceases to increase in size, resistance is very high, and the elimination is also poor.

Lapp-- Dr. Allen, let me interrupt at this point. You have been talking about brain size, and resistance to disease of children who are of the age to enter junior high school. There are some facts about the individual at this period that should be considered. Floyd Rowe, supervisor of health and physical education of the Cleveland public schools, has experimented with the growth and development of boys during this period. He finds that from February to June junior high school boys who are regularly enrolled in physical education grow from 30 to 90 per cent more in weight, lung capacity and grip strength than did boys not in the program. But from September to November junior high school boys on interscholastic basketball squad developed from 40 to 60 per cent less than did those in the ordinary physical education program; and over a two-year period developed much less than those not engaging in varsity sports. That basketball notation looks bad for your sport, Dr. Allen.

Allen--Yes, it certainly does, and it should. Many authorities state emphatically that basketball should not be indulged in as a team project in league competition at this age. The child's nervous system takes a terrific punishment from the angle of the emotional and physical being. In the interpretation of this, one should not conclude that strenuous activity is harmful to all boys in this formative stage of growth, but it should be interpreted that it is not advisable to overdo this type of intense activity until we have found evidence to the contrary. Dr. C. H. McCloy, of the University of Iowa, has recently suggested that there is some question about the advisability of strenuous competition during this age period. Recently Dr. Logan Clendenning, in one of his daily articles in the Kansas City Star, pointed out that it was inadvisable for boys under 14 to engage in interscholastic football competition. Only yesterday here in Lawrence an enthusiastic father deplored the fact that his young son could not play in junior high school league games because the physician had detected a heart murmur in his son. Rest for a year for this young boy will allow nature to compensate and the heart resume normalcy. You will remember that heart murmurs are quite common at this age.

Now to summarize: This youngster up to 10 years of age is just a young growing human animal. His job is to develop a strong muscular and organic foundation in which the nervous system is to mature. It is through his play and the activities that he indulges in that he accomplishes this aim. His nervous system is the last of the highly specialized tissues to be developed. Healthy nervous reactions depend upon bodily vigor. The fundamental group muscles, such as are employed in running, leaping, jumping, vaulting, climbing and swinging are the muscles that produce robust vitality. The accessory group muscles, which are ordinarily employed in the finer movements, necessitate a complex coordination of nervous control, a control which is entirely lacking in the early years of physical growth. The child at this time is not himself. He is someone else in his own imagination. His activities must appeal to his dramatic sense. Whether he be a make-believe All-American football player, an aviator, or an engineer, he is what he would have his