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TUBERCULOSIS IN THE ENDS OF
THE LONG BONES.*

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Pathology.—The discovery of the bacillus tuberculosis by Koch in 1882 has placed the pathology of tubercle on a secure basis, and has enabled the profession to march to the attack of an enemy whose strength and tactics are known.

The word "tubercle" is common in the works of the old writers, but is used to signify any morbid product of small size and of globular or nodular form. The term referred to the form rather than to the nature of the morbid product, and the mass might be scrofulous, cancerous, syphilitic, etc. Since the time of Laënnec, the word has been used to signify that morbid something which gives rise to general phthisis. Nélaton, in 1836, made the first systematic statement in regard to bone tuberculosis, and gave descriptions of forms of the affection that stand well the tests of time and criticism.†

The usual seat of tubercular processes in bone is the spongy tissue. In order of frequency they occur in the vertebræ, the extremities of the long

bones, the short bones of the hands and feet, and more rarely in the flat bones, and, exceptionally, in the shafts of the long bones, at a distance from the joints. Of the long bones, the tibia, femur, and humerus are the most common seats of attack, and in the order named. In the tibia the upper end is more frequently affected than the lower; in the femur, the lower end more frequently than the upper. This fact is of special interest in view of the mode of growth of these bones; the former grows more actively at the upper end and the latter at its lower extremity. Ollier has pointed out that fourteen-fifteenths of the growth in length of long bones occurs at the place of junction of the epiphysis with the diaphysis; and also that the terminal portions of the diaphyses, in children and adolescents, are most frequently the seat of acute and chronic inflammations and of various neoplasms. Tissues which are physiologically active are more fully supplied with blood than others, and are more liable to the attack of pathogenic processes. In keeping with these facts we find the knee more frequently the seat of disease than the hip or ankle, and the tibia more frequently the starting point than the femur. Another important clinical fact is also thus explained, viz., that bone diseases in the vicinity of joints are much more common in children than in adults, in whom the diaphyso-epiphyseal area has ceased to be active. When chronic disease affects the joints in the adult, it is much more frequently synovial in its origin.‡

*A Paper read at the Post-Graduate Course of the University of Toronto, December 18th and 19th, 1890.

†*Wide Ashurst's International Surgery*, vol. vi., p. 906.

‡*Orthopædic Surgery*, Bradford and Lovett, p. 366.