

TUBERCULOSIS OF BONES AND JOINTS—BIER TREATMENT.*

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For the last fifteen years, Professor Bier, of Bonn, has been treating cases of acute infective diseases of joints, bones and soft parts, by arterial and venous congestion, maintaining the diseased foci in a condition of hyperæmia for a longer or shorter interval. For purposes of treatment, he has divided hyperæmia into two varieties, Arterial or Active, and Venous or Passive.

The best results have been obtained with passive hyperæmia, which he has applied, especially, to the treatment of tuberculous affections, and I wish, to-day, to describe to you Bier's method of treating tuberculous joints of the extremities, by means of venous hyperæmia. For the production of venous congestion a Martin's india-rubber bandage is applied to the limb, about two inches above the diseased joint, allowing the folds of the bandage to overlap slightly, and to cover the soft parts for an area of about three inches. The bandage is drawn so firmly as to produce a strong engorgement. The area below the bandage becomes bluish and swollen. The subcutaneous veins swell, and the joint is felt to be hotter than the corresponding joint of the opposite side. Tingling sensations are felt, but actual pain is rare, but if it does occur, and is not relieved after the bandage has been applied for a few minutes, the latter must be loosened. The patient should suffer no discomfort or pain from a properly applied "Engorgement Bandage," (Staungsbinde), and yet the joint has the appearances of moderately acute inflammation. In some cases slight œdema follows, but with such a short application of the bandage this is a rare occurrence. When it does occur, however, it can be reduced by the elevation of the limb for a short time after the bandage is removed.

The indications which point to too strong application of the bandage, are pain, severe œdema, absence of the peripheral pulse, decrease in temperature, and presence of vermilion spots in the parts on the distal side of the bandage.

This treatment is employed daily for one hour, and carried on for a period of nine months to one year. Care should be taken, in using the bandage, to apply it always above the diseased joint, and to bind a different part of the limb; otherwise, con-

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