

amount and the frequency of the dosage. The best results are achieved through the replacing, as a retrograde metamorphosis of the malignant tissue by fibrous or adipose tissue. More rapid results, but possibly more dangerous, can be produced by the sloughing and necrosis of the pathological tissue.

Opinions differ widely as to the length of each séance and the proximity of the tube to the part to be treated. Some will tolerate a fifteen minutes' exposure at twenty-five inches; but five min. at fifteen inch distance will produce redness in another (Hopkins). Experience, knowledge and judgment are all necessary in order to treat each case according to its special needs. Some begin by one or two short sittings of about ten minutes, in order to test the susceptibility of the patient, and then the length of the sittings is gradually increased to half an hour, which Albers-Schonberg puts down as the limit. Freund thinks we should pause two or three weeks after the second sitting, which should not exceed five minutes. Willams, of Boston, suggests an initial sitting of ten minutes, repeated once in a week, after which he advises waiting for about two weeks for effects, when the séances are resumed, but interrupted on the first sign of irritation.

In treating sores of small dimensions, and removed from important and delicate organs, many radiographers, like Hall-Edwards, have no hesitation in causing an X-ray burn of the 2nd or 3rd degree, by an exposure of fifteen to twenty minutes, the tube being at a distance of one to two inches from the part to be treated. Of course extra precaution is necessary in protecting the surrounding tissue, by more than one thickness of lead foil. The resultant ulcer heals slowly, taking sometimes months, according to some authority. My method of dealing with them, by Reverdinizing the edges, has always produced rapid and very satisfactory closure of the resultant sore.

Codman has elucidated the subject of X-ray burns from a tabulation of reported cases, but he finds that their frequency has been exaggerated, only 171 cases being described; on these one-third were in X-ray workers themselves, and less than one-half were of a serious nature. He concludes that not more than one in a thousand patients has been injured in the past five years, and in the last year not one in ten times that number. The cause, according to him, is not definitely known. It is some form of energy closely allied to the photographically active X-ray, and radiates with it from the platinum terminal.