

No burn is produced by an exposure equal to or less than five minutes at ten in.; soft tubes produce more intense effect on tissues than hard ones. In case of injury, the time of appearance is from a few minutes to three weeks; very rarely more; one-third having appeared before the fourth day, and one-half before the ninth day.

This may serve as a guide for the uninitiated. It is interesting to note, in the presence of Codman's guarded opinion as to the cause of X-ray burns, some of the views of noted radiographers and physicists, most of whom consider it different from the X-rays, and only incidentally associated with it: thus Kollins produced a dissociation of these by causing a burn with tubes of such hardness that no light would go through; Trowbridge was able to produce a dermatitis by brush discharge. However, some would think that the light here is in a fine state of division, and not generated in vacuo. Tesla, Elihu Thomson, and Stine, all incline to some chemical action as the causative factor of burns, the former considers it as related to the ozone and the nitrous acid generated by the light; the latter thinks it is due solely to the ultra-violet rays or the so-called chemical rays. But Hopkins considers the ultra-violet rays are more constructive, whilst he thinks the X-rays are more destructive, and on this basis he uses a combination of both in the treatment of malignant conditions of the skin.

Radium has been used for the same end as the X-rays, and, like these, it is capable of producing burns in healthy as well as in morbid tissues. Their action is not dissimilar, and it is not unreasonable to expect them to become rivals. Already reports come to us from the Charing Cross hospital, where Davidson operated a cure on a case of superficial erosive cancer of the nose in six weeks' time, by exposures averaging fifteen minutes each and once week. It is claimed that previous treatment by the X-rays had been unsuccessful.

There are conditions which militate also in favour of the X-rays, and against the Finsen method.

(a) Extensive conditions in rapid process of extension. But here it may be deemed necessary to expose only a part of the sore, usually beginning at the edge, lest the patient find it difficult to bear a too active and extensive stimulation.

(b) Difficulties of position, as near the eye or about the mouth or other orifices of the body where compression becomes difficult or impossible.