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PASSAGES.

BY

ADONIRAM B. JUDSON, M.D.,

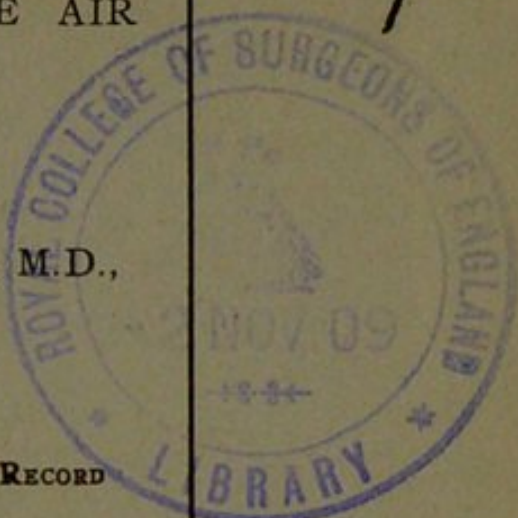
NEW YORK

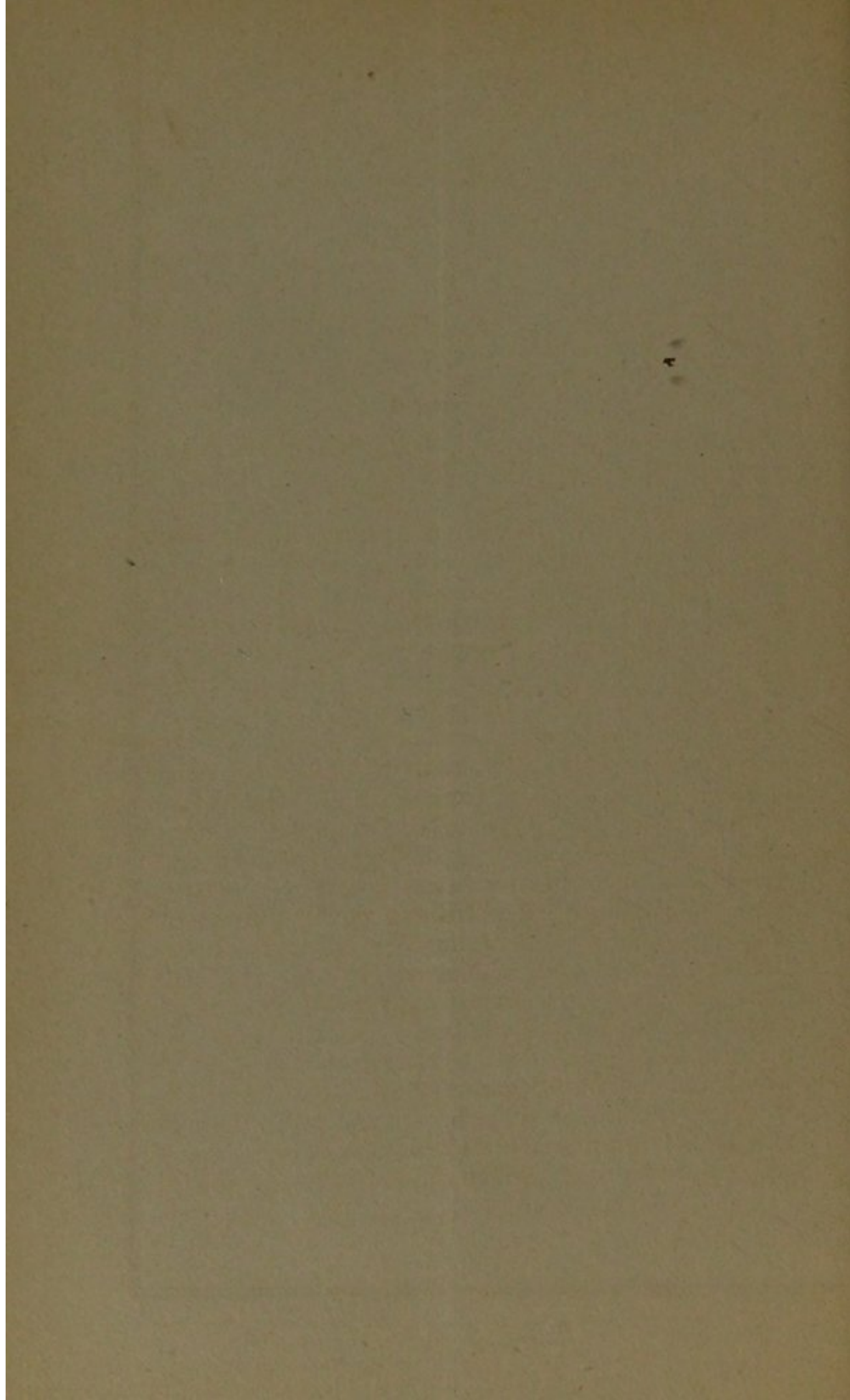
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THE HYGIENE OF THE AIR PASSAGES.

By ADONIRAM B. JUDSON, M.D.,

NEW YORK.

THE impulse to clear an obstructed air passage is perfectly natural, but it is well to give to the subject a brief critical consideration. When air fails to pass freely it is usually because the passage is narrowed by congestion and swelling of its lining membrane. But a person thus affected is apt to think that the trouble is caused by an obstruction which must be removed by forcing through the tube a column of air under pressure. He therefore either coughs, clears his throat, or blows his nose.

The facts are about as follows. An extra supply of blood is summoned to resist an invading foe, and irritation, swelling and secretion are incidents of the ensuing conflict. It may be said that irritation sounds the alarm, swelling indicates the presence of reinforcements, and secretion provides a covered way under which the affected part returns to a normal condition. The removal of mucus by the successful application of a blast of air does not justify the effort made, but really indicates that a natural protection has been surrendered. A similar situation is seen in the case of a cutaneous abrasion. It would not be good practice to wipe the part by the frequent application of a brush. It would be better to leave it untouched until healing takes place under the protective coat which inflammatory action has

brought and spread over the affected part. When the throat is sore interference aggravates the irritation and the irritation in turn prompts further interference, forming a "vicious circle," which calls for the exercise of reason and self-control. Excessive secretion induced by repeated muscular effort does not prove that the case is a severe one and that action was justifiable. It indicates rather that inflammation and its products have been increased by ill-advised exertion. It is better to omit trying to remove obstructions which do not exist, and to apply if necessary for professional advice. When the surface is visible, it is seen to be reddened like the membrane in conjunctivitis, which produces a sensation like that caused by the presence of a grain of sand, when the patient is told not to rub the eye, recalling the sapient admonition not to rub the eye except with the elbow.

The mechanics of clearing the air passages have not received much attention. It is believed that a brief review of the facts will show that it is desirable to omit so far as is practicable customary efforts to obtain relief. The muscles brought into action are among the strongest in the body. They are the great expulsive groups of the chest and abdomen, capable of acting with extreme violence. In *clearing the throat*, the glottis is contracted and the rush of air displaces mucus that may have burdened the vocal cords. This action may be necessary after prolonged vocalization, but it easily becomes an obnoxious habit.

In *blowing the nose*, a column of air is applied under pressure for the removal of mucus from the nasal passages. This also is necessary at times, but it is an action to be avoided if possible. It may be objected that failure to act leaves the face unclean.

The removal of what appears on the surface calls for attention in any case, and occasionally, as in acute catarrh and hay fever, the annoyance may be extreme. The best must then be done in a bad situation, in which it should be recalled that the less the air ducts are disturbed the less will be the discomfort and the shorter the road to recovery.

When a person has what is called a cold in the head it sometimes happens that the severity of the attack makes it almost impossible to breathe through the congested nasal passages. In such a crisis it is interesting to know that relief may be immediately obtained by making a forcible expiration and then ceasing to breathe for a fraction of a minute, when breathing through the nose becomes easy at once. The good effect may be prolonged by keeping the volume of respired air at the minimum. The relief may be explained by the statement that the congestion of the lining membrane is reduced by the withdrawal of venous blood into the depleted lungs.

To contract the habit of blowing the nose seems to be a sure way of converting an acute state into a chronic catarrh, which is evidently the result of unceasing efforts to keep the passages clear, in ignorance of the fact that recovery from either acute or chronic catarrh will surely follow intelligent expectation under proper advice and after exceptional watchfulness and considerable endurance of personal discomfort.

In *coughing*, the power of the expulsive muscles is displayed in severe compression alternating with sudden release and agitation of the whole respiratory apparatus, while the compressed air is driven through the tubes with violence which reminds one of the action of a steam pencil, wanting only the mordant agent to become an excoriating sand-blast.

The custom of resorting to this form of violent exercise can surely be modified by intelligent effort. It is not easy to ignore laryngeal irritation and temptations to cough when the habit is fixed. Reform is a tedious process, because it takes longer to go up hill than down. Neither is it altogether frivolous to say that if you do not cough the first time you do not have any cough. Expectoration, when unavoidable, may be facilitated by assuming for a moment an attitude in which the direction of the air passage is changed from the vertical to a downward inclination, when gravitation and a slight effort provide a harmless exit. In such straits quadrupeds have an advantage with their inclined windpipes, as was seen during the epizootic which visited American horses in 1872. A recent writer advises that drainage be promoted in certain forms of respiratory trouble by elevating the foot of the bed, and another seeks the same object by devising an ingenious inclined chair or table on which the patient lies prone. Since protection from local violence is part of a correct environment in lung disease, the omission of coughing is prescribed in the treatment of pulmonary tuberculosis.

It is generally known that *sneezing* may be prevented by pressing with the finger in the median line at the junction of the nose and upper lip. This stops the desire to sneeze by interfering with the nervous excitement which precipitates the spasm. Another way, novel perhaps, is to empty the lungs by a forcible expiration just before the muscular spasm is expected. The sneeze then takes place with the usual sensation, but there is very little noise and no column of air is sent through the passages as in the ordinary convulsion. The cap is snapped in military phrase, but, as there is no charge in the

barrel, there is no explosion. Although considerable violence attends a sneeze it is not likely that any harm results.

Ceasing to breathe by an effort of the will after a forcible expiration is a ready method of modifying the action of the heart. A weak pulse immediately becomes rapid, full, and strong, with peripheral vasomotor relaxation. This experiment cannot be continued long before the demand for air becomes distressing. By admitting air in small quantities, and thus gradually satisfying the want, the effect on the heart may be continued for some time without too great a demand on the endurance. It may be that full discussion has already been given to the questions prompted by this suggestion, which seems at the first glance to contain the germ of something useful and practical.

