

support for the "National Formulary" and he was quite successful in obtaining their help. Physicians told him that they wished their drugs to be reliable, and if they specified the manufacturer, it was in order to obtain a good article; if they felt assured that they could always get a reliable tincture or fluid extract, they would prescribe them in preference to the proprietary preparations. Attention of physicians should be drawn to the "National Formulary" of the American Pharmaceutical Association, because it contains formulas especially prepared to relieve physicians of the necessity of prescribing secret proprietary preparations which are not compatible with the dignity of physicians and which they prefer not to use. Some physicians hesitate about writing extemporaneous prescriptions on account of incompatibility and of making unpleasant combinations. They find it more convenient to order pills already made, and save themselves trouble. The speaker urged that the members of the Section use their influence to have the medical colleges of this country introduce the Pharmacopeia as a text-book. As it is, many physicians have never seen a copy of the Pharmacopeia and do not know it from the Dispensatory. He thought that most of our colleges pay very little attention to pharmacy, which is a great mistake. If practical pharmacy and materia medica were made more prominent in the curriculum of the medical colleges, he thought that the new graduate would be better qualified to practice his profession. He had met physicians who had never seen iodic of potassium! One physician told him that he did not know whether paregoric contained any opium or not! Where there is power, as there is in this Association, if it be used judiciously, much can be accomplished. With regard to standardization, he thought that it should be accomplished as far as possible at once or without unnecessary delay.

DR. A. M. WILSON, Kansas City, said that some years ago a class of men about to graduate from a medical school, about fifty in number, came to him for private instruction, and he found that not one of them could tell the difference between a tincture and a fluid extract. Although not practicing pharmacy for several years, he still has a private laboratory and is much interested as a graduate in pharmacy in the subject under discussion. We all know that a prescription, say for tincture of belladonna, taken to a half dozen different druggists would very probably bring back a different preparation from each one. He was, therefore, in favor of standardization. He advocated a better understanding between physicians and druggists, and thought that it would be better if the medical graduate could be made more of a druggist than he is at present. While the foundation of medicine is diagnosis and pathology, the superstructure is pharmacology and therapeutics. The text-books, however, are devoted almost entirely to pathology and say very little about the administration of drugs. He was certain that no satisfactory understanding can be reached until the physician knows as much as the druggist. At present, the Pharmacopeia is a sealed book to the physician and the average student coming out from a medical school is not competent to prescribe drugs, and therefore may easily be led off into Eddyism or other vagary. Out of a class of 122 that went out from a Kansas City medical school, there was only a very few who knew anything about the Pharmacopeia or the preparation of drugs. We should realize the tremendous responsibility of this subject and endeavor to have pharmacology more thoroughly taught. He believed in the use of standard drugs upon the standard human being, and he hoped that the effort to secure uniformity would succeed for the happiness of posterity and reputation of the medical profession.

DR. W. L. DICKERSON, St. Louis, Mo., said that with reference to the criticism that medical students go out without any knowledge of materia medica, he thought that it could not be any different under the present arrangement of studies. The student taking a four-years' course is expected to complete his studies of materia medica and pharmacy in the first year. He said that it would be better if these studies were made continuous throughout the four-years' course. He was glad that the revision of the Pharmacopeia was in the hands

of authorities who are giving due attention to the subject of standardization. The strength and dosage of tinctures are very variable and he thought that there could be no uniformity as long as the strength of tinctures varied all the way from 5 to 35 per cent.

DR. N. S. DAVIS, JR. (Chairman), said that he had for a number of years given much thought to the subject and he approved of the adoption of standardization of drugs and preparations just as soon and as far as possible. At present, however, the field in which it can be done with safety is very restricted. As a member of the Revision Committee, he had endeavored to carry out one plan, which he had always desired, and that was to make the Pharmacopeia more useful to medical men. He thought that physicians should be interested in it just as much as druggists are; it is the common standard for the two professions. It has not, hitherto, been arranged for physicians, but for druggists, and is not especially interesting to medical men, although it might be made a useful work in reference for both. With regard to instruction in medical schools, medical students in their first year acquire a certain amount of information with regard to materia medica and pharmacy, just as they do of physiology, information which they afterwards make use of during the remainder of their course at college. It can not be said with propriety that these studies are discontinued at the end of the first year, because they constantly make use of them throughout the entire four-years' course. He thought it very necessary in order to obtain definite results from drugs, to use products which are standardized, in preference to allowing the prescriptions to be filled with unreliable preparations which would not yield uniform results. Returning to the Pharmacopeia, he said that, in his opinion, all the new remedies should be placed therein, in order that physicians might be able to consult the Pharmacopeia for the latest authoritative information about drugs. It should not be a volume of standards, nor attempt to say with authority what drugs should be used, but a reference book. It should, therefore, contain all the newer drugs, whether they had been tested or not; these possibly might be put in an appendix, but all the new ones as well as the older preparations should be contained in it; the latter because they are still used by some physicians. As regards teaching of materia medica in the leading medical schools at the present time, laboratory courses are given in pharmacy, where the students are made familiar with the appearance of crude drugs, their chemical tests, and how to make the preparations. This course is supplemented by one on the physiologic effects of drugs. As students so taught come out and enter the profession, he felt sure that they will be far better informed as to the effects of drugs than those who graduated some years ago, of the class to which the last speaker had referred. It can not be said that these subjects do not receive sufficient consideration in our principal medical schools.

THE PROPER MANAGEMENT OF THE TUBERCULOUS LUNG.*

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How to manage a lung infected with tuberculosis so as to give it the best possible chance of recovery is a great desideratum, and only second in importance to the general management of the system as a whole.

A better understanding of the normal process of recovery of tuberculosis and of diseased lung tissue in general, makes it necessary for us to revise our notions of the proper hygiene and management of the tuberculous lung. It is necessary that we should recast our theories of cure and change our procedures with the lungs themselves. We must learn new ways, or rather

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the ways of Nature, as shown by wide observation of disease in other parts of the body and by experience with sick lungs themselves; and we need to reject and relegate to the rubbish pile a lot of doctrines that have been held and followed with the faithfulness of devotees by the public and profession alike. Some of these doctrines originated in the theories of non-professional persons with a superficial knowledge of physiology, and grew out of their reasoning as to what ought to be the truth, and therefore ought to be the procedure. It is an interesting as well as a pathetic fact that the profession has in the past fallen so readily and innocently into the habit of believing and following the theories of the lay public. It is likewise pathetic that we of the profession are wont to continue to rock along in the old ways for decades without stopping to consider whether better ways are possible. Some things by the light of this day must become axioms.

1. Shallow breathing is important and beneficial for a tuberculous lung that has to breathe. Better than that is no breathing. The good rule to put a sick organ at rest finds no exception here. Quiescence gives the forces of Nature the best chance. Put the sick lung part to rest if possible. The effects on the tuberculous lung of serum or gas in the pleural cavity in compressing the organ and so putting it to rest, have almost invariably been good, and they have gone far toward a demonstration of this proposition.

2. Deep breathing, or an occasional deep breath, is often urged as a measure to expand the lungs, which is a thing that has been supposed to be useful in tuberculosis, as well as to favor expectoration. The exit of the products of the disease is vital to prevent the occurrence of fever, and fever or the poison that causes it or both are what, if they last long enough, wear out the life of the patient. Many of us have been, I am convinced, guilty of giving this advice too freely, even recklessly and without pondering the effects of the measure. If it is so vital that phlegm within the tubes shall be expelled promptly a better way is to teach the patient to cough at the end of an expiration, when half the effort will accomplish the purpose: for this maneuver partially collapses or narrows the bronchi (and cavities if there are any) so that phlegm masses are more easily caught by air currents; and makes it possible for a small amount of air on the distal side of such a mass to expel it with great ease, when moving outward and into larger tubes with only a moderate degree of air pressure.

But are we sure pus within the bronchi is so very harmful? Fever is probably produced much less by absorption from within the bronchi than many of us have been ready to think. There is strong reason to believe that highly poisonous phlegm may remain inside the tubes for a long time without doing much harm. The real seat of mischievous absorption is, probably, mostly infected areas outside the walls of the tubes or the substance of the tube walls themselves. The patient suppresses his cough because cough appears to his mind synonymous with sickness; so if he can by any trick resist it he is in his estimation getting well. The doctor is likely to blame him for retaining his phlegm lest its poison shall be absorbed and produce fever; but it is almost certain that the benefit done to his lung by the quiescence of the organ due to suppression of the cough, a great deal more than counterbalances any injury done by absorption from within the bronchi.

3. Quiescence of the lung favors the limitation of the disease by fibrosis around and within the part involved, with the smallest amount of fibrous tissue; and

the smallest amount that can be effective is always desirable. Deep breathing does violence to the fresh, new fibrous tissue and so probably stimulates the further and excessive growth of it, exactly as manipulation of an open sore tends to an increase of scar tissue. Sometimes a patient recovers or is in a fair way to recover from his tuberculosis, to die from the damage due to excessive fibrosis. For, while moderate fibrosis is a conservative process, excess of it may be dangerous by cutting off the blood supply of the parts and so leading to destructive ulceration of lung tissue, dyspnea, debility and death.

4. There is no particular need of or significance in the popular efforts in the real or supposed expansion of the chest by deep breathing and wide movements of the arms. These measures may do well enough for the healthy who fear they may get sick, but never for the victims of pulmonary tuberculosis; and no arm movements or raising or retracting of the shoulders can ever expand a chest anyway, since the shoulders glide over muscular masses around the cone of the chest without changing its diameter or its position. That they can so act is a layman's theory, founded in poor knowledge of anatomy.

5. Altitudes do not help the sick with lung tuberculosis by expanding to a greater degree the air vesicles. The theory is fallacious, unphysiologic and wrong. The benefits of altitude must be explained on the theory of the increased number of the red blood corpuscles even if they are reduced in size, and of attendant and other advantages to the general nutrition of the body. These advantages are not discounted when we try to explain them on the rational ground of known physiologic changes, instead of on supposititious grounds which are founded in error.

6. Breathing through diminutive contrivances of tubes with large inlet and smaller outlet so as to produce increased pressure within the chest to expand the air vesicles, is harmful if any effect at all is produced. At best it only does the thing that every act of coughing produces, and produces with less harm than the steady, long continued pressure in the sustained effort at blowing, that so many people have practiced.

7. The habit of public speaking is distinctly harmful in consumption, doubtless because it increases the motion of the lungs and increases the pressure within them. It has been the practice of many of their physicians to permit clergymen with mild tuberculosis to continue preaching. I am satisfied that it is wrong and that the rule should be with every such patient to stop all public speaking, until at least a year after recovery is complete.

8. Every act of coughing must *ipso facto* increase the pulmonary air pressure and so tend to stretch the air vesicles and disturb the new and soft fibrous tissue and favor absorption into the veins and lymphatics of the lung. So cough should be minimized as far as is consistent with free expectoration of the accumulated phlegm, and coughing efforts should be made with as little pressure as possible. Let a patient cough at the end of a profound expiration and he will discover that he can raise his phlegm with a quarter of the air pressure that he would use if he coughed at the end of a deep inspiration, with every bronchus and cavity stretched to its utmost. There is much cough that is useless since it fails to bring up any phlegm whatever. It is a blind automatic effort of the sensitive nerves of the irritated mucous membrane, provoked by some irritation beside that of phlegm that can be expelled. As this tends to injure the air vesicles and increase fibrosis we should en-

deavor to lessen it as far as possible by means not of anodynes administered internally, but perhaps by soothing inhalants, warm clothing and careful attention to the needs of the system as a whole. Anodynes may become necessary occasionally as the lesser of the two evils.

9. Posture of the diseased part is usually forgotten as a factor in either the diagnosis or management of tuberculosis. That in one-sided tuberculosis, cough and wheezing are increased by lying recumbent on one side, and are decreased by reversing the posture, is a valuable aid in diagnosis, and points almost unerringly, if it is early in the progress of the case, to disease on the side that is undermost when the symptoms are excessive. This is due to the influence of gravity on the phlegm. When the substance can flow downward into larger tubes or into the windpipe, râles decrease and there is less tendency to cough. When the flow is distally toward and into tubes decreasing in size râles increase, and cough is produced by contact with healthy bronchial surfaces. Except in the rarest cases, it is only when the disease extends to the very surface of the lung that this symptom is wholly absent.

To keep the sick part uppermost favors the outflow and exit of disease products and so is useful for the part itself. To lie on the well lung therefore lessens useless cough and so far keeps the sick lung quiescent and gives it better opportunity for recovery. But on the other hand it favors the flow into the undermost and well lung, by gravity and suction together, of pus and other fluids, sometimes to the extent of carrying the disease to normal tissues; and this is the greatest misfortune of all. How much any hypostatic congestion of the well lung in this posture may handicap it and predispose its tissues to acquire tuberculosis must be a matter of conjecture, but there can be no question that to keep an uninfected lung in safety is a paramount duty.

It is a common observation that tuberculosis begins in the right apex, and as it recovers there breaks out in the bronchi of the left side, not at the very apex as was the case on the right side, but in the region of the second interspace and where it might be expected to appear if it should be an infection conveyed through the left main bronchus. By reason of the angle of this bronchus with the trachea the erect posture of the body favors the return of phlegm into the left rather than the right side, and this fact may well account for most of the cases of spread of the disease to the left lung in the region named and under the circumstances described. But it is only fair to assume that some of these cases are due to lying on the left side to avoid the coughing and wheezing threatened by a diseased right lung. And it is a serious question how far the patient should indulge himself in posture to escape the discomfort of coughing, when he is thereby in danger of an extension of the disease. I am coming to doubt whether in cases of much phlegm it would not be better to lie on the diseased side most of the time while in bed, turning to the opposite side occasionally to assist in coughing out the phlegm, than to pursue the usual course of keeping the sick side uppermost. It is true that such a procedure favors the flow of fluids distally and into perhaps uninfected small bronchi, but the quiet respiration of sleep would hardly do this, while it might suck phlegm into the large bronchi of the opposite side. Then the uppermost lung in lateral decubitus probably always expands more and does more breathing than the other one, and this is an unfortunate proportion; the major work ought to be done by the well lung.

10. There is now no reason to doubt the great value of immobilization of the diseased lung, especially in those cases where (the lesion being unilateral) one healthy lung remains capable of taking on extra duty. This doctrine has greater force and value in tuberculosis than any other disease.

Gas inflation of the pleural cavity, according to the method of Murphy, is undoubtedly the best way to accomplish this purpose where it can be done. But it is often inapplicable by reason of extensive adhesions preventing the distension of the cavity; by reason of lack of the proper apparatus; of lack of experience or skill on the part of the physician; or of courage on the part of the patient or his friends. It is chiefly adapted to the incipient stage of the disease and before adhesions have taken place; and adhesions develop as a rule rather early in pulmonary tuberculosis. At the same time many of the patients that show most benefit from fixation of the diseased lung, and that most need it, are more advanced cases, that are even more deserving of consideration, if less promising for recovery. External fixation ought to come into vogue for these patients, for it may be applied to nearly all unilateral cases in all stages of the disease, and has the merit of relative harmlessness, ease of application and general adaptability. From it patients often experience great benefit even from the moment of its application.

11. The method consists in fixing the diseased side as far as possible by means of numerous strips of firm adhesive plaster or some other apparatus, as a plaster of Paris splint or one made of some other material. In using the plaster the strips are drawn tightly about the side, ending somewhat beyond the median line of the body and are spread out in divergent lines extending from below the axilla, where they are gathered to avoid discomfort to the patient. Thus applied they do not interfere with the free movement of the well side, while they exercise a firm pressure on the side to be stilled. By this measure the ribs of the side may be considerably restricted in their excursions in respiration, and the lung beneath be likewise restricted in action. The reduction in the lung motion is, of course, less than that of the ribs, since the mediastinum constitutes a partition between the two sides of the chest that is movable to quite a degree by reason of its elasticity, and will always allow the lung we attempt to confine to expand in a measure, by itself stretching over toward the side of greater motion. But the partition, with the weight of the heart and great vessels, exercises some physical force against lateral movements, and that, such as it is, helps the efforts toward fixation of the lung.

Even if one side of the chest wall and the mediastinum were fixed and immovable, still wide excursions of the diaphragm could easily neutralize to a large extent the effects of this condition and allow all parts of the lung, except the very apex, to expand rather freely. The motion thus produced would be greatest at the base of the lung and shade off toward the apex where it would be slight.

The movements of the diaphragm may be minified by voluntarily breathing exclusively with the chest movements. It is possible for one to create a habit of doing this, but the average patient probably never will accomplish it, for he has too little fortitude and continuity in mental attention for so severe a test. And even if it were possible we could not expect the habit to be carried into the hours of slumber, which are quite as important as any other part of the day. But it is unwise and unfair to tax a consumptive with the duty of watching the

manner of his breathing. To be quiet and protect others from his expectoration is about all we ought to ask him to do.

The diaphragm may be to a very large degree immobilized by pinning a firm bandage around the abdomen, and thus abolishing as far as possible abdominal breathing. The bandage should be made of stout and inelastic cloth; should reach from the epigastrium to the pubic bone and extend over the lower ribs above, and the pelvis to near the hip-joints below. It should be drawn as snug as the patient can bear with comfort, and be fastened with safety pins placed not over an inch apart. To prevent it from sliding up and gathering about the waist the ordinary perineal thigh straps may be used.

The strips for the chest wall should be a good article of rubber adhesive plaster, or some other adhesive material, two inches wide. They should be drawn firmly and applied with the chest erect and in the state of extreme expiration; they should be numerous enough to cover the whole side, should overlap freely, and be sure to extend some three or four inches beyond the median line both front and back.

In applying the strips it is important to avoid placing them so that they will cut under the arm. If the arm is in the position of extreme elevation when the uppermost horizontal strip is applied it will almost certainly be placed too high and hurt the skin when the arm is brought down and carried in that position. The best way to apply this one, as for that matter all of them, is with the arm hanging by the side, the plaster being first carried under the arm and applied to the axillary line at the proper height, after which the ends may be stretched into place with the patient in full expiration. Then a number of strips should be applied diagonally in such a way as to avoid the axillary region. The strip that begins over the epigastrium ends at the inner end of the spine of the scapula on the well side; and the one that begins at the upper point of the sternum ends below the scapula of the well side. Thus the strips in the upper part spread out like a fan both front and back, while the lower ones are nearly or quite horizontal. The best rule as to the sequence of application of the strips is to fix the lowest horizontal one first, then the next above and so on, the diagonal ones at the top coming last. The patient should expire freely as the ends of each strip are drawn to place. Finally two strips of plaster superimposed should be drawn firmly over the shoulder, between the acromion and the neck, and extend down front and back lower than the horizontal strips and pressed firmly against all of these. These pieces tend to fix the upper ribs and give comfort to the chest. It is better not to have them stick to the shoulder. This may be prevented by first placing over the latter two layers of soft cloth extending to the diagonal strips of plaster. When well and fully applied the side of the chest is almost completely covered by the plaster.

The plaster dressing should, when once well applied, be allowed to remain unmolested as long as it serves the purpose of fixing the chest wall, or until it becomes annoying to the patient by producing some irritation of the skin. Then it may be taken off and the skin be washed with alcohol or dusted freely with bismuth, or some skin dusting powder, to remove any particles of plaster, when, if conditions are favorable, it should be reapplied as before. This round of measures should be repeated as many times successively as the case requires.

The skin is sometimes irritated considerably by the plaster, and pimples and slight excoriations occur. But

these usually recover in a day or two when the plaster is removed; then it can be reapplied. The skin irritation is useful to the lung and intercostal tissues rather than otherwise; moreover, the skin often seems to become after a while toughened or accustomed to the plaster, so that this ceases to irritate.

The greatest difficulty is in the tendency of the plaster to creep or slide, and as soon as it becomes so slack as to cease to keep the chest considerably immobilized it should be removed at once, and be reapplied as soon as possible. A surgical appliance much needed is a plaster that is highly adhesive and that once applied will not creep at all; but perhaps these conditions are impossible.

An interesting effect of the strapping, discoverable after it has been maintained for many days, is a restriction of motion in the affected side after the adhesive strips are removed. By idleness the respiratory muscles of this side acquire the habit of rest; and by increased duty those of the opposite side take on a habit of larger activity.

The abdominal bandage does no harm in any way except by depriving the abdominal organs of their accustomed gentle and natural massage due to the habitual movements of them that are produced by abdominal breathing. But this lack can easily be compensated for by removing the bandage occasionally and freely manipulating the abdomen. The bandage does not need to be so tight as to interfere with the circulation or press downward harmfully the pelvic organs, as tight lacing so often does. The purpose is solely to stop abdominal breathing as far as possible or as far as is consistent with good digestion and elimination; and abdominal breathing may usually be almost or quite abolished without interfering seriously with these functions.

The effect of this measure for immobilization of the chest will be found, in many cases, to be highly beneficial; in some cases the instant comfort experienced by the patient is a striking feature even where no chest pains have existed previously. The comfort comes from a quieting of the noises in the chest and from a feeling of rest. In substantially no case is it harmful, provided there is one healthy lung to be used; and it is borne without special discomfort by a large proportion of patients. A catalogue of the good effects includes: 1, considerable relief from useless cough; 2, increased ease in expectorating; 3, relief from the annoyance of râles and wheezings, which tantalize some patients into desperate insomnia if not into the grave; 4, relief of pain in the chest walls; 5, relief from a sense of fatigue in the chest which so many patients have; 6, lessening of fever, and consequently improvement in general nutrition and tone; 7, lessening of danger of hemorrhage and assistance in recovery from its effects; 8, aid in the healing of cavities, especially small ones; 9, decrease in the amount of fibrosis beyond what is necessary for a conservative force. There can be no question that immobilization in this way is a sustained benefit to the process of recovery; and I do not know of any other harmless measure that gives so much comfort to the average patient, except the inflation of the pleural cavity with gas.

But these good effects in tuberculosis do not comprise all the advantages that are sure to accrue from the faithful use of this measure. It has been used for the pains of pleuritis for many years; it is just as proper for intercostal neuralgia and for pleurodynia, as for any other pain in the chest that is produced by the motion of respiration. It may be used with benefit for empyema after drainage has been established; it will help toward the collapse of the cavity and early healing with a minimum

of fibrous tissue, and thus with more final use of the lung. It ought also in such cases to lessen the danger of amyloid degeneration of important organs from prolonged suppuration. It ought to be tried faithfully in bronchiectasis confined to one lung, in the hope of lessening the amount of fibrous tissue produced by the disease and so making the havoc to the lung and general system less.

THE NATURE AND HISTO-PATHOLOGY OF THE EPIPHARYNGEAL TONSIL.

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The body which is known as the third, pharyngeal, or better, epipharyngeal tonsil, and when hyperplastic, as adenoids, is situated at the superior part of the posterior wall of the epipharyngeal space, and constitutes the upper portion of Waldeyer's ring, the median and lower portions of which are completed respectively by the faucial and lingual tonsils, the whole being connected by a system of delicate lymphatic vessels and nodes.

While the honor of first disclosing the local and re-

solitary follicles and Peyer's patches in the intestinal walls. Henle called it conglobular; Koelliker, cytogenous; His, lymphoid tissue. Woake's idea as to adenoids being of a papillomatous nature has long since been proven erroneous. Indeed, this adenoid tissue is widely distributed throughout the body. It is abundant in the pharynx; in the esophagus it is almost absent, and in the stomach inconstant; but it abounds in the intestinal canal, especially in the ileo-cecal region, while in the rectum and about the anus it again becomes scant or altogether absent. It is found in the conjunctiva, in the tear ducts and in the mucosa of the female genitals. The trachea is rather free from the adenoid structure; but in the larynx it is constant, and is most frequently abundant in the ventricles and the interarytenoid region, on the free edge of the epiglottis, on the petiolus, in the aryepiglottic folds and in the sinus pyriformis.

Knowledge of the distribution of adenoid tissue in the postnasal space and adjacent structures is of practical

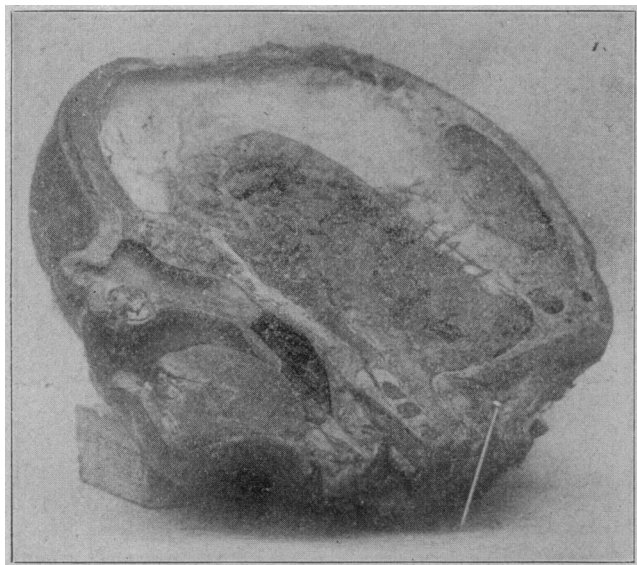


Figure 1.

Showing size and position of a normal epipharyngeal tonsil.

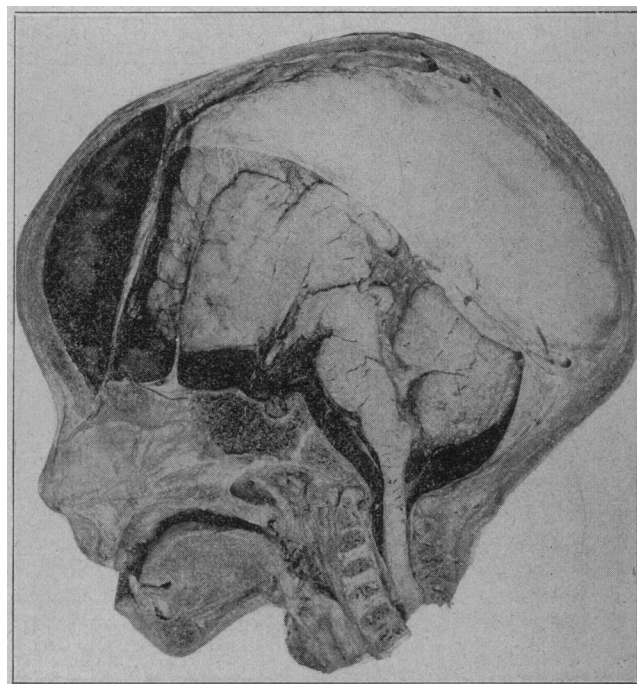


Figure 2.

Showing adenoid tissue embracing Rosenmüller's Groove.

mote significance of adenoids belongs to Wilhelm Meyer, first in 1868, then in 1873, their existence can hardly be said to have been altogether unknown to the ancient writers. Although he was ignorant of the real cause, Hippocrates, in the 7th Book of Epidemics, gives the clinical picture of adenoids with the concomitant ear discharge, headache, irregularity of the teeth, V-shaped palate, etc. We may gather from Celsus that the effects of adenoids were not unknown to him. Pliny mentions them. Semon draws attention to a picture of a Prince of Spain painted in 1524, in which the artist has portrayed the facies peculiar to those affected with mouth breathing. Schneider (1655), Santorini (1724), Haller (1764), Lacauchie (1853), and Luschka (1868) more or less perfectly described the morphology of the epipharyngeal body, and it was the latter investigator who first conferred on it the name, since generally accepted, the tonsilla pharyngea. Henle, Koelliker and His were the first to examine its histological structure, and to show the histological similarity existing between this and other remote lymphoid structures, namely, the spleen, the thymus, lymph glands,

import, inasmuch as the whole or any part of it is liable to undergo hyperplastic change.

The normal pharyngeal tonsil may be said to occupy the space reaching laterally from one Eustachian cushion to the other, and from the superior margin of the choana above, to the arcus atlantis below. It is flat and traversed by three to five or more vertical grooves, which tend to converge at its lower end; several fissures are usually found running from side to side, intersecting the former. It measures from 4 to 6 mm. in thickness. From here the adenoid tissue reaches over the soft palate into the middle meatus of the nose and along the floor, where it may be often detected by anterior rhinoscopy as a linear projection of pale pink color (Shäffer, Winckler, Hellman). The accumulation is so great on the median walls of the postnasal space and at the ostium of the Eustachian tube that Teutleben suggests that it be called the tubal tonsil. It enters the walls of the tube itself as far as its upper third. Trautman contended that adenoid vegetations never have their origin in Rosenmueller's groove in the im-