similar testimony to this could be obtained from other observers, it is possible that, in such cases as I have mentioned, we might inflict a shorter term of imprisonment. In the meantime, we must of course go upon the old lines.

I need hardly again mention the necessity of a thorough stoving and disinfection of clothing, furniture, bedding, etc.; and yet it is certain that, even at fever hospitals, this essential measure is often neglected. I have known several of these institutions that were left for years without any provision for this process.

It will be seen that I am no supporter of the craze, now so prevalent, for building large and expensive permanent hospitals for infectious diseases. I am strongly of opinion that the erection of small buildings, with power of extension when required, by means of well devised and well ventilated wooden wards, would be the best course to take in most instances. I think that there are many obvious reasons for the adoption of this plan in preference to the one now usually followed. Amongst these are, greater economy, increased efficiency, and the power of thorough disinfection, or destruction even, when required; but there are two or three further considerations favourable to this view that have hitherto attracted little attention. I have ventured to mention these before, in a paper on "Epidemics", read in 1867 before a meeting of the Association at Oxford, and in one upon "Epidemic Cycles", read before the meeting in Manchester in 1877.

I cannot well enter into these considerations at length at the present time, as each would require a separate discussion and proof; but, briefly enumerated, they are: 1. The shape of the curve of the wave of epidemic disease, first noticed by Dr. Farr, and the possibility of calculating its rate of advance and of decline; 2. The singular mode in which epidemics have usually been found to succeed one another, noticed by Sydenham, in his *Medical Observations* (section 4, chapter i) — "As one nail drives out another, so does epidemic drive out epidemic"; 3. The fact that epidemic disorders, which chiefly affect certain organs of the body, are most common at the season of the year when other non-specific affections of those organs are prevalent, and in the places most favourable to these latter diseases; 4. The existence of definite cycles of epidemic diseases.

These phenomena of epidemics tend to show, first, that it is improbable that a hospital will be much needed for several epidemic diseases at the same time; and, secondly, that it may perhaps be possible in the future to foresee the times and the seasons when the need for the services of a hospital will arise.

HOW TO DEAL WITH CONVALESCENTS FROM ACUTE INFECTIVE FEVERS SO AS TO RESTRAIN THEM FROM COMMUNICATING DISEASE.*

By FRANCIS VACHER, F.R.C.S.E., Birkenhead.

How to deal with convalescents from acute infective fevers so as to restrain them from communicating disease, is a question which must often perplex medical officers of health. In the first place, the law gives us very little power over such cases (the 124th section of the Public Health Act is scarcely available as regards convalescents); and, secondly, our being able to influence those in charge is exceptional; so that, although we may formulate rules for dealing with convalescents, we cannot, either by fear or by favour, ensure that they are carried out. Again, in some cases, where confidence is placed in us and our counsel sought as to the disposal of a particular convalescent, the course of action we prescribe may be beyond the slender means of the person advised. Thus the difficulties in dealing with convalescents from infective fevers are very great, even when we have intelligence about these sources of danger and know where they are; yet it is probable that, for every case about which we have information, three or four are not reported, and go through the acute attack and period of convalescence, ministering relatives and sympathising friends receiving and carrying the contagium in all the luxury of full liberty.

If, therefore, convalescents from infectious fevers are to be controlled so far as may be necessary to prevent their prejudicing the health of the community, the sanitary authority exercising control must have three things—information, powers, and accommodation.

By "information", it will be understood that I mean compulsory notification of infectious disease. Unless people are required to notify cases under a penalty, the sanitary authority rarely hears of them, except from alarmed neighbours, or when a fatality has made further secrecy

impossible. Happily, compulsory notification is no longer a mere idea of theorists, but an accomplished fact at Halifax, Bolton, Nottingham, Jarrow, and Burton-on-Trent; and the example of these towns in this matter is being followed at Derby, Exeter, Leicester, South Shields, Blackpool, and Warrington. The necessary powers could be obtained by most urban authorities without any opposition worth the name. The notification should be required of the householder, a lodger or sub-tenant being required to notify to him. In case the householder is himself infected, and disabled from notifying, the obligation should rest on the person in charge. The medical practitioner in attendance should be required to certify (on a form supplied) to the householder or person in charge, and be paid a fee for every such certificate by the sanitary authority.

I need hardly point out that knowledge of the position and circumstances of every case of infectious disease in a district is of very little use to the responsible officer of an authority, unless he can place efficient restrictions on the movements of the infected subjects, and, so far as may be practicable, prevent them from returning to their ordinary avocations and the duties of life till certified free from infection. No doubt some of the towns, in which compulsory notification is provided for, have already discovered that notification without power to control the movements of patients reported is somewhat embarrassing. To be useful in any comprehensive sense, it must be backed by such powers as are not given in any existing Act. Having advice of a fever-patient in the acute stage, or convalescent, let us see what restraint we can put on him. When a suitable hospital is provided or accessible, a person suffering from any dangerous infectious disorder may be removed thither, by justice's order, provided (1) he is without proper lodging or accommodation, or (2) lodged in a room occupied by more than one family, or (3) is on board any ship or vessel. An infected subject in a common lodging-house may be removed by the local authority without a justice's order. Thus any infectious patient properly lodged and accommodated (interpreting the words in accordance with the context) is under no restraint, except that he renders himself liable to penalty if he "wilfully expose himself without proper precautions" in "any street, public place, shop, inn, or public conveyance". With such limited power, what can the sanitary authority do except take charge of a few neglected cases, and issue an occasional summons in respect of wilful exposure?

I have said that intelligence as to fever-cases is of very little use without power to deal with them. It is certainly not less true, that power to remove and isolate cases can avail nothing unless we have fit places for their reception. The accommodation wanted is of two kinds; viz., hospitals for the reception and treatment of patients suffering from infectious diseases, and *homes for convalescents*. Accommodation of the first kind has been provided or contracted for by many sanitary authorities, while the bare fact that there is a demand for the other accommodation is scarcely yet recognised. Indeed, inasmuch as local authorities are only empowered to provide hospitals or temporary places for the reception of the sick, it is doubtful whether any special provision for the accommodation of convalescents can be legally made; and yet such homes can be effectually provided by the sanitary authorities alone. The failure of the recent attempt in Dublin to raise funds for a home shows that the work is not one which may be safely left to private charity; and as for private enterprise, it would be idle to expect much assistance from that source. Of the large number of existing convalescent homes in the United Kingdom, whether proprietary, supported by subscriptions, or maintenance charges, scarcely any are available for convalescents from infectious fevers—that is, without regard to considerations of expense. Instead of being homes for convalescents from infectious disease, they are homes for all other convalescents but these.

The Charity Organisation Society is now preparing as complete a list as possible of existing convalescent homes, with particulars as to the class or sex for which each home is available, and the extent of accommodation offered. When this list is issued, it will doubtless furnish more reliable information about convalescent homes than any at present within reach, and we shall know proximately how many beds there are at the service of patients recovering from fever. My own experience—and I live in a part of England liberally supplied with convalescent homes—is, that I know of no institution to which I can send infectious convalescents, and the result is seriously to detract from the usefulness of my fever-hospital. I am obliged either to retain patients in hospital during weeks of an often protracted convalescence, occupying ward-space which could be better employed, or to put them out into lodgings in an adjoining street, where they are subject to very imperfect control, and may sow contagium outside the circle of those who voluntarily accept whatever risk the accommodation of such lodgers implies. I need hardly say that, having no convalescent home to which I can draft off patients, I much prefer to keep them in hospital till I am able

* Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association in Cork, August 1879.

to discharge them as absolutely free from infection; and that it is only in exceptional circumstances I avail myself of the services of lodging-house keepers.

Before I pass on from the subject of special accommodation for convalescents, the want of which every one having the management of an hospital for infectious diseases must often have felt, I should like to draw attention to another requirement almost equally urgent; *i.e.*, special accommodation for those who, though not known to be infected, have been contiguous to infected patients, and are thus (temporarily, at all events) objects of danger. So far as I have been able to ascertain, Glasgow is the only town where provision for these possibly dangerous subjects has been made. The accommodation afforded is simply a large lodging-house, called the Reception House; and in it families from crowded localities are boarded, after one or more of their members have been removed to an infectious diseases hospital. Remaining in the infected premises would be dangerous to them, and they might prove sources of danger to others. Quarantined, as it were, in the Reception House, they are under observation and out of harm's way; the fumigation of their clothes and the premises from which they were removed can be at once proceeded with; and they themselves can be bathed and disinfected. It occurs to me that an establishment of this kind might also be utilised for doubtful cases. Men and women certified as suffering from fever, but quite innocent of it, occasionally find their way into fever-hospitals; and this is especially liable to happen during times of epidemic disease, when hospital accommodation is most needed. If such cases could be sent to a reception house, and there kept under observation as long as might be deemed necessary, it would prevent some possible ill effects of incorrect diagnosis, and relieve managers of fever-hospitals of a frequent cause of anxiety.

Apologising for this brief digression, I return to my text. I have said that, to exercise the necessary control over fever-patients during the period of convalescence, the sanitary authority must have information, powers, and accommodation. Only the few towns I have mentioned have regular information of cases of infectious disease; none have efficient powers to insist on isolation; while the want of special accommodation for convalescents is not even recognised. Compulsory information of cases of infectious diseases, and powers to deal with them to prevent their spreading disease, can only be obtained by going to Parliament. Without losing sight of the fact that it is desirable to abridge somewhat the liberty of convalescents, as we already abridge the liberty of others who from various causes are dangerous to the community, and that powers to effect this will have to be obtained sooner or later, let us see if there be not some practical suggestion to be got from the consideration of the subject. Put it in this way: Convalescents from infectious diseases are a daily source of danger. Is there anything which we, as medical officers, can do to minimise this. I think that there are two things, at least, that we can do. 1. We can be more rigorously particular in refusing to discharge infectious patients from hospital till absolutely free from infection; if necessary, setting apart one or two wards for the sole use of convalescents, or adding a special convalescent ward. A garden will be found of great use in helping the hospital management to retain unwilling convalescents. 2. We might issue printed rules having reference to the management of convalescents. These could be sent out as circulars to all ratepayers, and perhaps displayed as posters; and should state simply how isolation is to be effected, and give explicit directions as to bathing, anointing, and exercising the patient, cleansing and airing his room, wearing apparel, etc.—matters on which the public are not at present sufficiently instructed.

THE SURGICAL TREATMENT OF EPISTAXIS.

By EDWARD HAMILTON, M.D.,

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COMMUNICATIONS on the subject of epistaxis, which have from time to time appeared in the pages of our JOURNAL, seem to elicit the fact that there exist in the minds of busy practitioners much doubt and misconception as to the best plan of dealing with this emergency, so often a source of anxiety and danger. I am induced to offer a few practical remarks relative to it, as it occurs to me that the simplest and most effectual method of arresting this hæmorrhage is not sufficiently known, nor appreciated as it should be. It is not my intention to discuss the nature, causes, or constitutional treatment of epistaxis; they are sufficiently detailed in various systematic works on medicine and surgery, in many of which the subject is thoroughly exhausted. Let us assume that the nose is freely bleeding, and that it is imperative that the surgeon

should arrest the flow of blood without loss of time. We may also assume that various popular remedies have been tried, and tried in vain—they are known to every tyro. The surgeon may absolutely be summoned for the especial duty of plugging the posterior nares, as I was myself some time ago, by a respected general practitioner in this city, who sent for me late at night, and entreated me to carry out this proceeding and no other, as he had minutely detailed the steps of this operation, and did not wish that his patient (a highly nervous and sensitive lady) should be disappointed, having screwed up her courage to the point of endurance. Should the surgeon feel disposed to adopt this proceeding, let him avoid putting his trust in surgical toys like Bellocq's sound. I have seen this instrument more than once produced from the pocket-case with great formality, and, when introduced into the nostril, the thread of the screw was found so worn and imperfect that it failed to catch. The watch-spring coming forward into the mouth could not be withdrawn, so that the instrument became quite unmanageable and useless, and was flung aside with great disgust. And I have witnessed, scraping of the lining membrane of the pharynx, and much pain, and impatience caused by vain attempts to use this appliance, even when perfect as an instrument. Further, it is not always at hand when required; the sooner, therefore, the surgeon accustoms himself to act without such unreliable assistance, the better for himself and his patients.

Simple, indeed, is the apparatus required for plugging the posterior nares. A foot of wire, to be found now-a-days in every wardrobe, from the kitchen to the garret—that by which mineral water-bottles are secured—answers the purpose admirably. Should a supply from either of these sources fail, the bell-wire may be pressed into the service for the nonce. A coil of thin copper-wire may be carried with advantage in the smallest pocket-case, and will be found a very useful addition to it for this and many other purposes in practical surgery. Let a loop be twisted on the end of the wire, as large as will pass through the nostril; when it appears below the soft palate, it may be conducted forward into the mouth by a dressing forceps, the finger, or a hook improvised on another piece of the same wire. The ligature, being now secured to the loop, may be drawn through the mouth, pharynx, and nasal fossa, the plug fastened to it and fixed in position in the usual way, and the operation completed. This proceeding is, however, at best most troublesome, clumsy, distressing to the patient, and by no means free from risk. A well-known case in Dublin was followed by erysipelas of the fauces, causing fatal œdema of the glottis. In our periodical literature, we find recorded such consequences as tetanus, secondary hæmorrhage, the loosened plug fatally entangled in the glottis, besides the intolerable annoyance to the patient of the ligature in the mouth. It is obviously desirable to find some simpler mode of dealing with this emergency; and I have no hesitation in asserting the proposition that plugging through the anterior nostril is all sufficient, if it be carried out with thoroughness and efficiency. Mr. Bryant, whose last edition may be regarded as the latest exposition of British surgery, recommends the use of Bellocq's cannula, and gives a wood-cut of the instrument. Speaking of plugging the nose, he says: "To do this effectually, some skill is necessary to do it; otherwise, it is useless and injurious. *To plug from the anterior nares alone is trifling with the hæmorrhage.*" To apply the author's own quaint remark, there is the way not to do it as well as the way to do it—a remark as applicable to plugging the anterior nares as to every other surgical procedure.

The plan of treating epistaxis which I would suggest cannot claim any merit for originality, as I only wish in this paper to call attention to what appears to have escaped recollection. It is a modification of that proposed, so long ago as 1862, by the late Josiah Smyly, of respected memory. His own description of it may be found in a very able and exhaustive memoir, on the subject of epistaxis, by my friend Professor Macnamara, in the *Dublin Quarterly Journal* for February 1862. I take a strip of linen material, three feet long; the width will be in proportion to the fineness of the texture; the coarser it is, the narrower it may be. We may take one inch wide as the standard. This may be soaked in some domestic astringent at hand: tea, alum-water, saturnine solutions; oil may be used, but it should be sparingly, as, although it greatly facilitates the introduction of the material, yet, as it interferes with the imbibition of moisture, it prevents the subsequent expansion of the plug, which is useful in checking the escape of blood by its compressing effect. The best of all fluids, if at hand, is a saturated solution of gallic acid in glycerine, which may be kept for the purpose. This has the advantage of combining astringency and styptic quality with lubrication. This strip of linen should be regarded as consisting of three parts, each intended for its own special position in the nostril. The end of the first portion should be grasped in the blades of a dressing forceps, and conveyed along the floor of the nostril to the posterior termination of that cavity; the remainder, about one foot, should be