substantiate this proposition. Certainly the earlier cited cases show prolonged taxis to be attended with more serious consequences than prolonged strangulation alone.

By way of deduction again from these I should say that if there is any doubt as to a severe hernia being reducible or not, in treatment give the benefit of the doubt to an early surgical operation. And, in the second place, that if from any cause there may be delay in operating, such as for want of instrument or assistance, suspend all attempts at reduction by taxis after one trial.

ON AN EPIDEMIC OF JAUNDICE IN KING'S LYNN, 1895.

By CHARLES B. PLOWRIGHT, M.D.,
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THE fact that the so-called catarrhal form of jaundice sometimes occurs in an epidemic form has attracted the notice of various medical writers, both in our own country and abroad, as reference to the medical journals plainly shows. Thus, Murchison, in 1863, mentions an outbreak of jaundice in Rotherham, in the February of which year 150 cases were recorded. It is particularly to be noticed that this epidemic was preceded by one of enteric fever. In 1872 Decaisne brought under the notice of the French Académie a similar though smaller outbreak. In Paris during the preceding year 28 cases were observed, 17 of which were males and 11 females. The disease also prevailed amongst the German soldiers then investing the city, especially in the Bavarian regiments. In 1877 Dr. Kohnhorn describes an outbreak in a German regiment, and noted that it was confined to those young soldiers who had joined within the previous twelve months, the older soldiers escaping.

In September, 1895, a case came under my notice in King's Lynn, in the person of a boy, aged 9; within a week two other children in the same family were attacked. On inquiry amongst my professional brethren I have been able to collect some 34 cases, 13 males and 21 females:

	Under 10	Under 20	Under 30	Under 40	Under 50	Under 60	Under 70	Under 80	Total Cases.
Males ...	2	4	2	1	1	2	—	1	13
Females...	5	6	2	1	3	1	3	—	21
	7	10	4	2	4	3	3	1	34

From this it is evident that the majority of the cases were in young persons under 20 years of age, and that the female sex suffered more than the male. Of the 17 adults (above 20), 5 were total abstainers and 1 was a great water drinker. The cases were met with in all parts of the town, nor could any definite meteorological conditions be found to account for their occurrence. Two cases were complicated with left basal pneumonia which followed the jaundice, 1 with diarrhoea, and 1 with tonsillitis. Subjoined are the months in which the cases occurred side by side for comparison with the enteric fever cases reported:

1895.	Jaundice.	Enteric Fever.
January ...	...	...
February ...	...	...
March ...	...	...
April ...	...	...
May ...	...	...
June ...	...	...
July ...	...	...
August ...	...	...
September ...	...	...
October ...	...	...
November ...	...	...
December...	...	...
	34	25

Thus, while it appears that both diseases were prevalent during the last half of the year, yet there is no actual correspondence in their frequency in the various months. It must be remembered, however, that while the enteric cases were notified the jaundice had to be found by personal inquiry.

In a certain number there was a distinct history of *malaise* and anorexia, lasting from four days to three weeks, whereas in a very similar number no premonitory *malaise* could be traced; 21 cases had distinct more or less severe epigastric pain and 24 had vomiting ushering in the jaundice; the majority were well within ten days; no fatal case occurred.

With regard to the etiology—the number of children and young adults, of the females in proportion to the males, of total abstainers, and the fact that during the months of October and November the rainfall was above the average in the district through which the stream at present supplying the town with drinking water flows—all seem to point to this having been a water-spread epidemic, especially as during these two months the mean temperature was above the average.

My thanks are due to Mr. S. M. W. Wilson, the medical officer of health, and to Messrs. Webster and Jackson for their kindness in helping me in this inquiry.

THE PRESENT POSITION OF THE RADICAL OPERATIONS FOR CHRONIC SUPPURATIVE OTITIS.

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IN a memorandum¹ Mr. F. White, F.R.C.S., makes a protest against routine operating in chronic otorrhoea which seems to require an answer. The protest comes late. Radical operations for chronic otorrhoea have got beyond the stage of routine operating, and are well advanced in the third stage in the evolution of an operation—namely, that of classification.

The following is a classification which I attempted two years ago in a paper on the Radical Cure of Otorrhoea.² Since then I have treated a large number of cases of otorrhoea with more or less success with or without operation, and I find no reason for making any material change in my classification. To each group of classes I now append the treatment which I then and now consider sufficient or necessary for a successful termination.

A. (1) Simple chronic purulent inflammation limited to the main cavity of the tympanum with a perforation in the membrana tensa.

(2) The disease limited as in (1), but accompanied by formation of polyp unconnected with bone disease.

(3) In which removal of polyp or granulations from easily accessible parts of the tympanum or meatus reveals small superficial patches of roughened bone.

Cases of Group A, except when due to tubercle, are amenable to treatment by the older methods, including curetting, properly carried out.

B. (4) Attic suppuration, with or without caries of the ossicles.

(5) Cases, originally belonging to one of the above four classes, in which adhesions between the ossicles and between the ossicles and the tympanic walls interfere with drainage or cause subjective symptoms—extreme deafness, tinnitus, or giddiness.

Several cases of Group B might be cited in which recovery took place without radical operation, but in the majority no permanent improvement is got until the ossicles are removed by natural or artificial means; in the meantime the patient is subjected to grave risk or to serious discomfort.

C. (6) Chronic suppuration of the mastoid antrum.

(7) Cholesteatomata.

(8) Caries of mastoid antrum or some part of the tympanic walls which, though inaccessible through the meatus, can be removed by operation without risk to important structures.

No lasting good can be done in cases of this group except by radical operation; the method best adapted to them is, in my opinion, the so-called Stacke-Schwartz operation.

D. (9) Caries or necrosis of the petrous bone which cannot be eradicated without destroying important structures or without risk to life.

It is in this and Group C that tuberculous cases are usually met with.

¹ BRITISH MEDICAL JOURNAL, February 1st, 1896

² Liverpool Med. Chir. Journ., vol. ii 1894.

In Group D, seeing that the exfoliation of the diseased bone must to a large extent be allowed to take its own time, it is better to establish a permanent opening in the mastoid.

E. (20) Caries and hyperostosis or exostosis proceeding side by side.

Unfortunately the detection of hyperostosis is practically impossible until operation is begun. Owing to the extreme hardness and brittleness of the bone and the sudden change to cancellous or carious bone, these cases can only be safely operated on with the dental burr.

In conclusion, I wish to submit the following question: Is it better, in a "radical operation," to completely erase the mucosa, or should as much of it as possible be preserved even though it is thickened and granular? In attempting to answer this question for myself I have examined a large number of my operation cases (about thirty) of the last three or four years with the following results: 1. Whenever a large amount of mucosa is left a certain amount of mucus continues to be secreted, so that the middle ear is rarely quite dry. On the other hand, the cavity looks healthy, there is no pus, no foetor; it is easily kept clean, and the hearing is relatively good. 2. Where the cavity is lined chiefly or in large part by skin it is apt to become choked with epithelial scales and secretion from the skin glands, is liable to attacks of eczema, and, unless there is a permanent opening behind the ear so that a forcible through current can be got in syringing, it is difficult to keep clean. I conclude, therefore, that, except in cases of tubercle (when recognised), cholesteatoma and extensive caries (in which the natural termination is sometimes a permanent mastoid opening with a lining of ingrown skin) it is better to preserve as much as possible of the natural lining, believing that perfect dryness is not a criterion of health in the middle ear any more than in the nose or mouth.

ON A NEW FORM OF SHOULDER BRACE, ON THE ACTION OF SUCH APPLIANCES, AND ON THE RIGHT METHOD OF FITTING THEM.

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THE majority of cases of lateral curvature are complicated with dorsal kyphosis, and in some the latter deformity—"round shoulders," as it is commonly called—is the principal defect. The more the shoulders are carried forwards the greater is the leverage with which the weight of the arms tends to increase the curvature, as well as to interfere with the full expansion of the chest in respiration. When it is remembered that diseases which interfere with respiration—for example, bronchitis and asthma—are themselves enough to cause curvature of the dorsal spine, or round back, it will be seen that there is a double reason for keeping the shoulders well back, namely: (1) to prevent the weight of the upper extremities from acting to increase the curve of the arched dorsal spine, and (2) to permit the chest to expand and straighten out the spine. Furthermore, freedom of expansion of the chest benefits the general health, and both carriage and appearance are improved by preventing the shoulders from slouching forward.

It has been objected to shoulder braces of every kind that they weaken the muscles whose duty it is to hold the shoulders back. It is not the duty of muscles to perform any such wearisome task as would be involved in steadily, hour after hour, holding back shoulders dragged forward by the weight of upper extremities acting with the leverage lent by a kyphotic dorsal spine. The effort would, in a severe case, be greater than that required to hold the arms out horizontally hour after hour.

An essential requirement for good shoulder braces is a firm basis such as a plaster-of-paris or a poroplastic jacket fitted to the trunk as low as the hips. Another is that the braces should not pull or press downwards at all, because that action, as Sayre points out, tends, by bringing the two ends of the spinal column nearer together, to increase spinal curves.

I am recommending anterior crutches or braces only. The ordinary axillary crutch, inferior in position, is only endured by the patient when it does not act. When it does act it

is well known to paralyse the brachial plexus and obstruct the circulation in the arm.

A third requirement of the anterior crutch or shoulder brace is that its support should be elastic, and a fourth that the degree of its pressure should be adjustable by the patient, according to what experience shows can be endured with comfort.

These requirements are fulfilled by the appliance here described. A large number have been made for me by Messrs. Maw, Son, and Thompson. Many of my patients have worn them for several years. At first the crutches were fitted to Sayre's jacket of plaster-of-paris. In the last three years, except when the deformity was severe, poroplastic felt has been used. The details have been modified experimentally in various ways. The appliance here described may be relied on. A jacket of poroplastic felt or of plaster-of-paris is made, and its fit perfected.

The patient, standing erect with the jacket on, a measurement is taken from the lower border of the clavicle straight down to a clear inch above the waist of the jacket. The position when the upper edge of the jacket crosses this line should be noted. The instrument maker then fits on the pair of crutches illustrated. Above the jacket they are covered with chamois leather. Their lower extremities move on hinges attached to plates riveted to the jacket. In the case of plaster jackets there should be inner as well as outer plates with all or most of the plaster layers gripped tightly between the two. This point must be insisted on. The two crutches are united behind the back of the jacket by the elastic webbing strap S, which can be tightened or loosened by the buckle B. The hinge plates H H should be set well back, rather behind the mid-axillary line.

The final fitting must be done by the surgeon himself with a pair of simple wrenches of any description. The leather-covered parts have to be bent in until they adjust themselves

along the inner border of the deltoids. Their flat surfaces must look backwards, their points turn forwards a little, as in the sketch.

The combination of felt jacket with these crutches has proved beneficial to the anæmia from which many round-shouldered young girls suffer. It effectually prevents tight lacing, it improves respiration, and inspires the patient by giving her a feeling of health and well-being to which she has not been accustomed. But I must emphasise the importance of making both jacket and crutches fit properly. Experience teaches every inventor of surgical appliances that if too much is left to the instrument maker imperfect fit results in failure or discomfort, and then modifications are introduced inconsistent with the spirit of the original invention.